DEPARTMENT OF JUSTICE

ANTITRUST ISSUES IN STANDARD SETTING

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I. Introduction

Good morning and thank you for inviting me to speak. As an attorney who focuses on laws related to the creative process, I am honored to be invited to speak in a nation associated with so many advances in science, art, and business, both historically and currently, and to speak to an organization devoted to the important goal of improving technical standards.

My topic today is the way in which the U.S. Department of Justice (DOJ) Antitrust Division applies antitrust law to "ex ante" patent policies within standards development organizations (SDOs). Such policies permit licensing and disclosure of intellectual property before a standard is set, so that SDO members may consider patent licensing costs. As many of you know, the Department of Justice issued a business review letter on this topic to the VITA organization in October 2006[1] and currently is considering a different ex ante proposal by the IEEE.[2] Our hosts have asked me to discuss both these SDO proposals but to begin with an overview of U.S. antitrust law. So at their suggestion, I will divide my presentation into three parts: first, I will discuss how United States enforcers approach antitrust analysis in general; second, I will discuss the specific analysis we set forth in the VITA letter, and briefly discuss how IEEE's proposal differs from VITA's; and third, I will set forth some of the most important principles of sound antitrust analysis in the SDO context, and close with suggestions as to how the marketplace might best use the U.S. antitrust agencies' guidance in this important area.

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[1]Letter by Thomas O. Barnett, Assistant Att'y Gen. for Antitrust, U.S. Dep't of Justice, to Robert A. Skitol, counsel to the VMEbus International Trade Association (VITA) (Oct. 30, 2006), http://www.usdoj.gov/atr/public/busreview/219380.pdf.

[2]The DOJ generally does not announce the existence of investigations; however, the Institute of Electrical and Electronics Engineers, Inc. (IEEE) has made public the fact of this request. *See*, *e.g.*, E-mail from Don Wright, IEEE-SA Standards Board Past Chair (Dec. 6, 2006, 9:22:18 EST), http://grouper.ieee.org/groups/pp-dialog/email/msg00195.html.

II. Antitrust Analysis and SDO Conduct at the Department of Justice

A. Competition, Efficiency, Effects, and the Enforcement Model

To understand how the United States approaches antitrust analysis, it is necessary to understand how we apply four concepts: competition; efficiency; effects; and enforcement.

By competition I mean that U.S. antitrust law protects competition, not competitors.[3] We ask questions about the strength of the competitive process, not harm to particular competitors, because harm to competitors, by itself, tells us nothing: vigorous competition always puts pressure on competitors, and often some competitors will exit a market or go out of business as a result.[4] When Competitor *A*'s conduct causes Competitor *B* to lose market share, the normal explanation is simply that Competitor *B* has not provided as good a value to the customer – Competitor *A*'s quality is higher, its price is lower, its sales methods are more aggressive and creative, or it has innovated in some way. In such a context, Competitor *B*'s loss of market share does not represent a loss of competition; instead, it represents the most efficient allocation of resources based on customer choice, which is the essence of a strong competitive environment. The reduction in one competitor's market share, even where that competitor is prominent, usually has no impact on the competitive landscape; in order words, it usually does not affect the incentives of the remaining competitors (incumbents and new entrants) to keep quality high, to keep prices low, to introduce new products, or otherwise strive to win customers. It follows that

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[3]*E.g.*, Brown Shoe Co. v. United States, 370 U.S. 294, 344 (1962).

[4]For similar reasons, it would not make sense to focus on whether a particular price is "fair," in some abstract sense: the person charging a price almost always wants to charge more and the person paying it almost always wants to pay less, so the mere fact of a dispute over prices tells us nothing.

if Competitor *A* drives Competitor *B* out of business, this generally will not violate the antitrust laws – even where Competitor *A* uses practices that seem “unfair” – if many other competitors exist and the competitive landscape is essentially unchanged. Thus, when we focus on “competition, not competitors,” we focus on whether the competitive process itself has been undermined, not the harm to any one company or subset of companies.

Efficiency is the measure of how much wealth is created in proportion to the inputs used, which includes things such as capital investment, labor, raw materials, and the amount of waste or undesirable effects. The more efficient a process, the more outputs it can create or the more inputs it can save for other uses, and the more wealth results. And dynamic efficiency, which refers to gains caused by new technologies and other significant innovations, is responsible for the vast majority of economic growth and increased consumer welfare. The Department of Justice constantly frames its civil investigation inquiries in terms of efficiency.[5] This is not merely a philosophical question; very often it also is an empirical one. To help us examine efficiency and other economic impacts, the Department of Justice employs a staff of roughly 50 Ph.D. economists, as well as other economic professionals, who analyze conduct and perform research about markets.

Effects is a word we use to keep us focused on the substance of a given course of conduct, as opposed to its form. Our analysis is effects-based, which is a concept best understood in contrast to its alternative, which would be a form-based or rule-based approach. A form-based method of analysis would prohibit a broad group of practices or would establish a

[5]This is not the case for criminal investigations, where per se illegality applies; see *infra* at n.8.

series of checklists and thresholds that, if met, would lead automatically to antitrust liability. The United States does use forms to some extent as initial screening tools; for example, we subject mergers to an initial screening test based on expected changes in market share[6] and we apply an antitrust "safety zone" to certain licensing practices that cover only a small share of a market.[7] But triggering such forms and rules is not enough, in U.S. civil antitrust law,[8] to establish a violation of the antitrust laws. For the ultimate liability decision, we use an effects-based test: we ask, what is the short- and long-term effect of the challenged conduct on

[6]U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES § 1.51 (1992, rev. 1997) (describing unconcentrated, moderately concentrated, and highly concentrated markets as measured by the Herfindahl-Hirschman Index), http://www.usdoj.gov/atr/public/guidelines/hmg.pdf.

[7]U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY § 4.3 (1995) ("Absent extraordinary circumstances, the Agencies will not challenge a restraint in an intellectual property licensing arrangement if (1) the restraint is not facially anticompetitive and (2) the licensor and its licensees collectively account for no more than twenty percent of each relevant market significantly affected by the restraint. This "safety zone" does not apply to those transfers of intellectual property rights to which a merger analysis is applied." (footnote omitted)), http://www.usdoj.gov/atr/public/guidelines/0558.pdf.

[8]A small number of exceptions to this statement exist; chief among these is that U.S. antitrust law applies a rigid rule against competitors' fixing of prices, output, and territories, which is automatically a violation of the antitrust laws and is often a criminal violation. In the United States and Canada, this is known as the per se rule against price fixing. In Europe, this is known as the rule against "hard core" cartels. But although this is a rule, it is based on effects: antitrust enforcers have learned, through long experience, that such cartel behavior almost always has significant anticompetitive effects and has no plausible efficiency justification. "[A] departure from the rule-of-reason standard must be based upon demonstrable economic effect rather than . . . upon formalistic line-drawing." Continental T.V., Inc. v. GTE Sylvania Inc., 433 U.S. 36, 58-59 (1977). In the United States, per se condemnation is appropriate only where "experience with a particular kind of restraint enables the [U.S. Supreme] Court to predict with confidence that the rule of reason will condemn it." State Oil Co. v. Khan, 522 U.S. 3, 10 (1997) (quotation omitted). "Cases that do not fit the generalization may arise, but a per se rule reflects the judgment that such cases are not sufficiently common or important to justify the time and expense necessary to identify them." Continental T.V., Inc., 433 U.S. at 50 n.16.

competition and efficiency? Again, we rely to a great extent on our staff economists to help us answer this question. The effects-based approach allows us quickly to incorporate the best developments in economic thinking. It helps us avoid having to constantly create and issue new rules, which would be tremendously time consuming, and it helps us avoid applying old, outdated rules, which would be especially harmful and inefficient in today's rapidly-changing economy.

Finally, the Department of Justice employs the enforcement model of antitrust, as opposed to the regulatory model. A regulatory approach is one in which a government agency identifies specific ways that a business should act, and then orders the business to do those particular things or penalizes it, after the fact, if the business does not adhere to those rules. The United States government uses a regulatory approach in some areas; for example, it runs the air traffic control system, where government employees tell pilots what altitudes to use when flying and which landing strips to use when landing. If a pilot disobeys the air traffic controller, the pilot can be fined and – this is the point that makes it regulatory – he can be fined regardless of whether there is a bad "effect," such as causing an accident or delaying someone else's flight. Antitrust law in the United States is not applied in this way.[9] The antitrust agencies and the courts only establish general principles and leave business decisions in the hands of producers and consumers. Businesses ordinarily do not have to justify their practices and decisions;

[9]The United States does employ a notice and waiting period requirement for mergers and similar transactions that meet a certain size threshold, but this merely provides the antitrust enforcers a short time to review a transaction for anticompetitive effects. The notice and waiting period process is a procedural requirement, not a substantive one. *See generally* U.S. Dep't of Justice, Merger Enforcement, http://www.usdoj.gov/atr/public/premerger.htm. Substantive U.S. merger review is effects-based.

instead, if a practice is challenged, the burden is on the complaining party (whether that means a private plaintiff or the government) to demonstrate that the defendant's conduct is anticompetitive. The antitrust enforcers do not broadly tell private industry what to do, and businesses do not have to justify their actions as perfectly competitive; instead, we apply principles such as the "rule of reason," which governs most agreements that have some restraint on trade and which requires plaintiffs to prove not only that conduct places a restraint on competition, but also that the restraint is unreasonable in light of business justifications, market conditions, and other factors. We also apply a hierarchy of antitrust enforcement: criminal enforcement is our highest priority, because cartel behavior has no efficiency justification; merger enforcement is our second priority; and non-merger civil conduct enforcement – although still important – is the area where we are most cautious, because this is the area where it is most difficult to distinguish between anticompetitive conduct and the often beneficial results of hard-nosed competition.

Some would characterize the U.S. antitrust principles as a decision to forego the quest for perfect competition in favor of system that merely offers "good enough" competition, in an attempt to offer more flexibility for businesses. We certainly have chosen a degree of flexibility, but I urge you not to believe that such a tradeoff exists. We have not given up on pursuing a "perfect" state of competition; instead, we have realized that "perfect" competition is impossible to determine, much less regulate, and heavier government intervention in search of "perfection" is self-defeating. History shows us, both in the United States and elsewhere, that while markets may not be perfect, neither are government agencies. Government enforcers can be good at identifying specific cases where anticompetitive effects occur. They tend to be bad at managing

entire industries, and particularly bad at anticipating what customers will want during times of technological change. Protecting the competitive process, then letting businesses compete vigorously and letting customers choose winners and losers, leads to the greatest overall welfare. As Assistant Attorney General for Antitrust Thomas Barnett has said, "we should question any claim that government regulators are more competent than private firms and consumers to choose the 'best' design for a product, particularly when the 'best' design must evolve rapidly to meet changing consumer demands."[10]

B. The DOJ, the FTC, and the Business Review Process

I have been asked to explain why the United States has two antitrust enforcement bodies, the DOJ Antitrust Division and the Federal Trade Commission (FTC) Bureau of Competition. The reason is purely historical. When the United States passed its first antitrust law, the Sherman Act,[11] in 1890, the DOJ was its enforcer (the DOJ itself was already in existence). The FTC was created in 1914 to combat a broader set of practices, which were not limited to antitrust, but also included violations such as fraud and deception of consumers.[12] Later, DOJ established its Antitrust Division (including its Economic Analysis Group) and the FTC established its Bureau of Competition (and also its Bureau of Economics), so that each agency would have a formal

[10]Thomas O. Barnett, Assistant Att'y Gen., U.S. Dep't of Justice, Interoperability Between Antitrust and Intellectual Property, Address at the George Mason University Symposium on Managing Antitrust Issues in the Global Marketplace 16 (Washington, D.C., Sept. 13, 2006), http://www.usdoj.gov/atr/public/speeches/218316.pdf.

[11]The key modern provisions of the Sherman Act, Section 1 (liability for anticompetitive agreements) and Section 2 (liability for anticompetitive conduct that does not involve agreements), are contained at 15 U.S.C. §§ 1-2.

[12]The primary liability provision of the Federal Trade Commission Act, 15 U.S.C. § 45, establishes liability for "unfair or deceptive acts or practices" affecting commerce in the United States.

division dedicated specifically to enforcing the antitrust laws. As antitrust laws in the United States developed, these agencies have worked to apply the same standards for civil antitrust law, and they share enforcement in that area. The largest remaining difference is that only the Antitrust Division has jurisdiction to bring a criminal case and that for historical reasons, in non-criminal investigations, each agency covers particular industries or areas of expertise.

Despite the fact that journalists often describe the DOJ and the FTC as "antitrust regulators," both agencies apply the enforcement method, not a regulatory approach. In particular, the FTC shares the DOJ's view that enforcement should be fact-specific and effects-based.[13] While the agencies do not broadly tell businesses how to operate, they do issue guidance about their enforcement philosophy. This guidance can take many forms, including jointly-written formal guidelines,[14] public statements at the close of investigations, and speeches such as this one. And if businesses wish to receive a statement of an agency's enforcement intentions with respect to a specific type of prospective business conduct, they can ask for a formal business review. In the FTC this is called an advisory opinion, and at DOJ this is called a business review letter.

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[13]*See* Deborah Platt Majoras, Chairman, Fed. Trade Comm'n, The Federal Trade Commission in the Online World, Address at the Progress and Freedom Foundation Aspen Summit 16-17 (Aug. 21, 2006) ("The market may not work perfectly all of the time or in every circumstance, but one should not compare results yielded by the market with some hypothetical 'perfect' world that is the product of government regulation. Broad regulatory mandates that employ a 'one size fits all' philosophy, without regard to specific facts, always have unintended consequences, some of which may be harmful and some of which may not be known until far in the future. * * * [M]arkets – particularly dynamic markets – are usually self-correcting."), http://www.ftc.gov/speeches/majoras/060821pffaspenfinal.pdf.

[14]*See* U.S. Dep't of Justice, Guidelines and Policy Statements, http://www.usdoj.gov/atr/public/guidelines/guidelin.htm.

The business review is a natural part of the DOJ and FTC enforcement model. One goal of a system that values efficiency and enforcement is transparency: the more predictable the agencies' actions, the more likely that businesses will not run afoul of them, and thus the more resources can be put toward serving the customer instead of bringing or defending lawsuits. Guidelines, hearings, and similar generalized statements are the main way we achieve transparency, but in certain areas of the law, businesses may wish to receive guidance about a specific course of conduct. The business review serves this need.[15]

At the Department of Justice, the business review process begins when a firm submits a formal written request.[16] The DOJ opens an investigation and may research market conditions, conduct party interviews, and perform interviews of customers and competitors. Primarily, however, the DOJ relies on the factual representations of the firm requesting the review, for three reasons: (1) conducting a full investigation requires a lot of resources; (2) the DOJ only has authority to perform a review for proposed conduct (not conduct that has already occurred),[17] so many facts will be largely within the control of the requesting firm; and (3) any guidance issued will be valid only for the facts explained in the letter, so there is little incentive to withhold information – doing so would render the letter worthless. The process concludes when the DOJ issues a letter stating one of three things: it has no intention to challenge the proposed conduct; it

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[15]DOJ business review letters are published in several sources, including the Internet. *See* U.S. Dep't of Justice, Business Review Letters, http://www.usdoj.gov/atr/public/busreview/letters.htm. The DOJ and FTC also issue public closing statements at the conclusion of certain investigations, where the agencies determine that such statements will contribute to transparency.

[16]*See* U.S. Dep't of Justice, Business Review Procedure, http://www.usdoj.gov/atr/public/busreview/procedure.htm.

[17]28 C.F.R. § 50.6.

does have an intention to challenge; or it cannot make a decision based on the facts in the request or the conditions of the market.

C. The VITA Business Review and the IEEE Request

I will now turn to the substance of the VITA and IEEE business reviews. VITA is the VMEbus International Trade Association, an SDO that creates standards for certain computer bus architecture.[18] VITA claimed to have a well-founded fear that its previous IP policy, which required patent owners to commit to reasonable and non-discriminatory (RAND) licensing terms, was not adequate to prevent patent hold up in the context of its standards, so it created a new policy and asked the Department of Justice for a business review. Hold up can be defined to involve a situation where all the following conditions exist:

- after the standard is set, the holder of a patent essential to that standard identifies a patent, or attempts to impose licensing terms, that SDO members could not reasonably have anticipated;
- it is not a commercially reasonable option to abandon the standard and attempt to create an alternative, due to the cost of the standard setting process itself or the cost of developing products incorporating the alternative standard;
- and – most importantly – if the other SDO members *had* anticipated the patent holder's demands, those SDO members could have chosen a different technology that avoided this patent.

Thus, one of two results likely would have occurred if the SDO members had known of the patent and the patent holder's demands: the SDO actually would have chosen the alternative technology, or the threat to do so – before the standard was locked in – would have caused the

[18]Letter from Thomas O. Barnett, *supra* n.1; *see also* Press Release, U.S. Dep't of Justice, Justice Department Will Not Oppose Proposal by Standard-Setting Organization on Disclosure and Licensing of Patents (Oct. 30, 2006), http://www.usdoj.gov/atr/public/press_releases/2006/219379.pdf.

patent owner to offer a lower royalty rate. This definition is important because it makes clear that hold up involves the loss of the opportunity to pursue a meaningful competitive alternative. Hold up involves market power that is created by a standard itself, *not* market power that would have existed regardless of the standard. Hold up, as I use the term, does not exist merely by the fact that a group of licensors is upset that a patentee holds the key to an essential technology. Hold up certainly does not exist merely by the fact that a patentee charges a particular rate for its royalty when licensees would prefer to pay a lower rate.

VITA's policy was an attempt to avoid hold up as I have defined it. The VITA policy contains a number of provisions, including these five:

- *Disclosure.* Each member of a standards working group must disclose all patents or patent applications that it knows about and that it believes may become essential to implementation of the future standard. Members must do this on three occasions: before a working group is formed to create a standard; within sixty days after the working group is formed; and within fifteen days after the draft standard is published. In addition, any member must disclose any previously undisclosed essential patents at any meeting, and must follow that disclosure with a formal declaration within thirty days.

- *Maximum terms*. Members must disclose maximum royalty rates, whether in terms of dollars or as a percentage of a device sale price, and also the most restrictive non-royalty terms they will demand for essential rights. The commitments are irrevocable; however, patent holders are free to submit subsequent declarations with lower rates and less restrictive terms.

- *Limited application*. These commitments apply to implementation of the VITA standard being developed, and any revisions to that standard, but they do not apply to any other uses of the technology.

- *No horizontal negotiations*. Working group members may consider the various declared licensing terms when deciding which technology to support for the standard, but cannot negotiate or discuss specific licensing terms among working group members or with third parties.

- *Arbitration and consequences*. The policy creates an arbitration procedure to resolve any disputes over members' compliance. There are a number of specified

> consequences for non-compliance, including that failure to disclose an essential patent will lead to that patent being licensed on a royalty-free basis within the standard.

In its letter, the Department of Justice concluded that this policy was not likely to harm competition. It found that the policy should not lead to depression of the price for licenses through joint, anticompetitive actions because it prohibits any joint negotiation of licensing terms. Working group members do not set actual licensing terms – the patent holders propose their terms, balancing their interest in higher royalties against the possibility that too high a "price" ex ante would prevent their technology from being chosen for the standard because of competitive alternatives. Before or after the standard is set, the patent holder and each prospective licensee will negotiate separately, subject only to the maximum terms set forth in the patent holder's original, unilateral declaration. Any attempt to use this process as a sham to cover horizontal price fixing likely would result in antitrust liability, as an illegal agreement under Section 1 of the Sherman Act,[19] but the restrictions put in place by VITA appear to promote efficiency if they are followed and enforced.

The IEEE request differs from VITA's policy chiefly in that it gives patent holders more options. Under the IEEE proposal, if the chairman of an IEEE standards working group believes

[19] 15 U.S.C. § 1.

that a member may hold patent rights that potentially will be essential to the proposed standard, he or she may ask that member to disclose the such patent rights and provide an assurance about licensing terms. That SDO member then has five options:

- provide no assurance;
- state that it does not hold essential patents;
- commit not to assert its patents against implementers of the standard;
- commit to license on RAND terms; or
- commit to RAND terms and also to other restrictions, which may include assurances as to terms or royalty rate.

The IEEE will then post the licensing assurances, or lack thereof, on its website. If a patent holder chooses the fifth option, the IEEE working groups may then use this information to assess the relative costs of alternative technologies. The optional nature of this policy makes it quite different from the VITA policy. Another difference is the lack of an explicit remedy provision: unlike VITA, IEEE has not created a consequences provision that could impose arbitration and royalty-free licenses. If a patent holder were to choose IEEE's fifth option, then fail to adhere to its assurances, any party that claims injury would be left to seek redress in a civil court action. IEEE has no obligation to become directly involved in enforcing the policy.

III. Antitrust and Standard Setting: Efficiency, Effects, and Market Solutions

The VITA and IEEE proposals are, as of today, the cutting edge of the debate over ex ante patent policies and DOJ's statements in response are the latest word in United States enforcement on these subjects. But I want to make clear that these proposals and the DOJ's response do not represent the *only* way to approach SDO policies. The United States agencies have considered

these issues for several years, long before the issuance of the VITA letter,[20] and they are aware of many other alleged problems and suggested solutions among SDOs. We should expect the law to continue to develop in this area, and the Department of Justice has publicly stated that we believe that experimentation with different approaches is likely to be beneficial to consumers.[21] With that in mind, I will close with several observations about the antitrust analysis of standard setting. Most of these observations are based on economic principles that are not specific to any country and that therefore could be applied anywhere.

First, I emphasize again, one should not treat the latest statement from the Department of Justice as the only safe way to proceed, or conclude that if a policy deviates in any of its particulars from one reviewed favorably by an antitrust enforcer, it necessarily violates the antitrust laws. The Department of Justice has seen businesses make such an error in the context of its business review letters regarding patent pools, which for a time came to be seen by some, incorrectly, as the only method for creating an antitrust-compliant patent pool. A decision that one particular form of action is not an antitrust violation does not mean that another form of

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[20]*See*, *e.g.*, R. Hewitt Pate, Assistant Att'y Gen., U.S. Dep't of Justice, Competition and Intellectual Property in the U.S.: Licensing Freedom and the Limits of Antitrust, Address at the 2005 EU Competition Workshop 9 (Florence, Italy, June 3, 2005) ("It would be a strange result if antitrust policy is being used to prevent price competition."), http://www.usdoj.gov/atr/public/speeches/209359.pdf; Deborah Platt Majoras, Chairman, Fed. Trade Comm'n, Recognizing the Procompetitive Potential of Royalty Discussions in Standard Setting, Address at Standardization and the Law: Developing the Golden Mean for Global Trade 7 (Stanford University, Sept. 23, 2005) ("[T]ransparency on price can increase competition among rival technologies striving for incorporation into the standard at issue."), http://www.ftc.gov/speeches/majoras/050923stanford.pdf.

[21]*See generally* Gerald F. Masoudi, Deputy Assistant Att'y Gen., U.S. Dep't of Justice, Efficiency in Analysis of Antitrust, Standard Setting, and Intellectual Property, Address at the High-Level Workshop on Standardization, IP Licensing, and Antitrust (Brussels, Jan. 18, 2007), http://www.usdoj.gov/atr/public/speeches/220972.pdf.

action violates the law. There can be multiple approaches that do not raise antitrust concerns. Different industries, and even different firms within industries, face different challenges; therefore, efficient new solutions may result in differences from those tried in the past. The antitrust "rule of reason" is adaptable, by design.

Second, I also emphasize again that when discussing the market power of patents within standard setting, it is important to distinguish market power created by the standard from market power that existed through the patent independent of the standard. It is reasonable under the antitrust laws for an SDO to use competition-promoting techniques to avoid creating market power, or at least to avoid creating market power with anticompetitive consequences, that could arise by virtue of its standard. It may not be reasonable to use a collaborative standard setting process to attempt to destroy market power that a patent holder achieved independently through procompetitive means. Under the patent laws, innovation should be rewarded, particularly where it results in a patent that is essential on its own merits. It makes no sense to endorse the innovative effort represented by SDOs while disdaining the innovative effort represented by a patent or other intellectual property. SDO buyer-cartel behavior has the real potential to damage innovation incentives, and therefore is properly the subject of antitrust scrutiny.

Third, analysis of SDO conduct should focus on efficiency because efficiency is the whole reason for standard-setting. The justification for cooperatively setting a standard, as opposed to letting standards develop accidentally or from the technological solutions proposed by individual firms, is that collaboratively-set standards can be more useful to society. In the long run, they may provide a more optimal balance of choosing more advanced technology, costing less to create and implement, and getting to market faster. An antitrust enforcer should not focus on only

one of these points in isolation – for example, that a particular policy would not achieve the lowest implementation costs – and conclude that the policy is anticompetitive; instead, an enforcer must evaluate the potential efficiency of the policy as a whole. And such an analysis necessarily requires some degree of freedom for SDOs, because SDO members will need to experiment to get the balance right, and they will be asking questions that are extraordinarily difficult to answer.

Fourth, because heavy, preemptive government regulation is not a solution to the question of evaluating SDO policies, what other solution exists? Market competition. Competition is good, even when it occurs between SDOs. At first this may seem counterintuitive – isn't a single standard more efficient than two competing standards? – but it is correct if one remembers that the goal is *long term* efficiency. As an SDO experiments with ex ante patent policies, members should be free to leave if they disagree, and they should be free to set up a competing SDO that seeks a different path. This will cause some short-term duplication of costs, but over time the additional experimentation that results, and the competitive pressure exerted by the threat of such desertions and alternatives, should lead to market-driven solutions and compromises that are based on real-world experience, and will be more efficient. Such an approach replaces guesswork – in answering questions such as "is a royalty rate really commercially unreasonable?" and "is an ex ante licensing requirement really so onerous that patent holders will not participate?" – with facts. Antitrust analysis, like a business decision, improves when it is based on facts rather than predictions.

Fifth and finally, antitrust law and policy certainly does not create an affirmative requirement for SDOs to create an ex ante patent policy. Recently I was asked, "Since hold up is

a problem, shouldn't antitrust enforcers mandate such policies, and shouldn't enforcers assume that an SDO has an anticompetitive purpose or effect if it declines to do so?" The answer, quite clearly, is no. There are too many reasons to list them all, but here are a few:

- Ex ante patent policies are not the only things that prevent patent hold up. Many other factors serve to restrain patent owners from behavior that SDO members consider inefficient: most patent owners are repeat players, so they take reputation and long-run business relationship issues seriously; many patent owners are also implementers, who have a stake in the success of SDO efforts; and even patent owners who do not implement have a stake in SDO success, since a failed standard generates no patent royalty stream. In short, competition exerts some restraint on patent owner behavior, regardless of SDOs' formal policies. Patent owners always face the specter of competition – they fear that if their technology is not reasonably priced or licensed, SDOs will avoid their patents in future implementations and rivals will target them for innovation work-arounds.

- Ex ante patent policies impose costs that some SDOs will not wish to incur. Ex ante licensing discussions often require high-level marketing and legal personnel, whose time is expensive, in addition to the technical personnel already involved. Such discussions can cause members to change their behavior within the SDO, reducing information sharing and candor, out of a fear of litigation or other consequences. And they can be time-consuming, which is a tremendous concern in technology fields where time-to-market is a crucial factor.

- And licensing rates used in SDOs are a potential problem for patent owners engaged in unrelated litigation. For example, if an owner licenses a patent royalty-free within a standard and then, later, sues to enforce the same patent against an unrelated infringement, could a court conclude that the owner is entitled to no damages on the grounds that the patent holder effectively established a "reasonable royalty rate" of zero? Even patent holders whose patent strategy is purely defensive – who do not seek to "monetize" (derive direct licensing revenue) from their patents – have described this concern to the Department of Justice.

A rational SDO could recognize benefits in a policy like VITA's, yet conclude that those benefits are not enough to compensate for the additional personnel, costs, and delays that such a policy may require. Antitrust law should not second-guess that type of business decision.

IV. Conclusion

There is a role for antitrust enforcers to play in the development of efficient standard setting models, but given the potential importance of this area to dynamic efficiency and long-term consumer welfare, it is a role we should play with great caution. Inefficient rules and policies, particularly ones that become inefficient over time, are nearly inevitable in this area. When inefficient rules are imposed by private SDOs, there are a number of safety valves available; for example, businesses can choose not to participate in standard setting or can form competing SDOs or otherwise contract around the problem. When an unsound rule is proposed by a government enforcer, however, there is often no way to contract around it, and worse, there may be no way to conduct a natural experiment without the rule that can help prove it should be abandoned.

As we consider the challenges and proposed solutions within standard setting, we should keep in mind the power of markets to self-correct. We should keep long-term efficiency as our goal. We should react when we identify actual anticompetitive effects, but we should not overreact to the inevitable short-term missteps – or perceived missteps – that SDOs and businesses will make. And we should take comfort that with the speed of technological change in today's global economy, the short term and long term are increasingly converging. It is no longer so true that, in the quote attributed to a famous economist, "In the long term, we are all dead." Today's long term is something we will all live to experience; increasingly, it is right around the corner. I look forward to seeing you there.