

## EDITORIAL

### STANDARDS AND WAVE THEORY

Andrew Updegrove

Standards enjoy an intimate and unique relationship with technology industries. Without certain types of fundamental enabling standards, the wide commercial deployment of many new technologies would be infeasible. The most obvious examples of this synergy exist in the burgeoning area of telecommunications, which today underlies everything from the Internet to camera equipped cell phones.

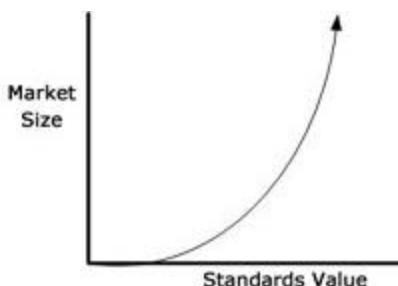
Other standards have traditionally been created to optimize, rather than fundamentally enable, the commercial use of technology-based products. Examples in this area include the type of interoperability standards that permit the assembly of networks comprising the products of multiple vendors.

Such optimizing standards also provide important incentives to adopt new technologies, because they decrease the risks and increase the rewards of investing in upgraded technology, since adopters can expect to choose from more products and services, and at lower costs, and because standards-based technologies are likely to have a longer lifespan.

But with the convergence of information technology with telecommunications brought about by the ever-increasing use of the Web, the lines between enabling and optimizing standards are becoming more blurred. Are standards that limit Spam, bolster data security, and block viruses enabling or optimizing?

In the sense that such standards allow systems to meet minimum customer requirements, they are enabling, even though they are not necessary to execute base functionalities. For example, security does not enable purchasing, as such. At the same time, no one would engage in ecommerce without some reasonable expectation on the part of a customer that her bank account data, social security number and credit card information were reasonably secure.

If there is an "X-axis" along which one can plot the utility of a given standard, from pure enablement to pure optimization, there is also a Y-axis along which one can plot the commercial return to those that create and adopt a standard. Logically, as the value of a market increases, the rewards of creating standards that protect that market, or which are likely to lead to further growth in that market, will increase.

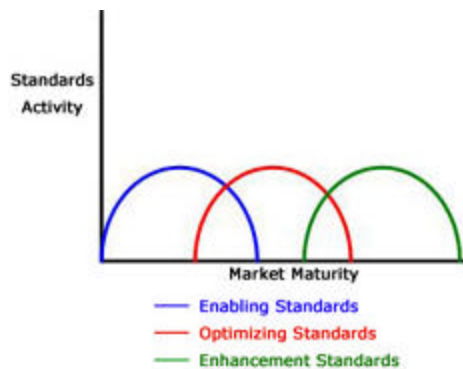


The result is that one may sometimes observe a kind of "wave theory" of standards development.

The first wave of standards enables something to be done that could not be done before, or provides a dramatically improved way of accomplishing an old task. Increasingly, this type of fundamental standard (or "commonality", as we prefer to say) has been conceived or marshaled by an individual thought leader, such as Tim Berners-Lee or Linus Torvalds. More traditionally, the new standard is the work of a group of companies, which have realized the potential for a new standard to enable a significant commercial opportunity (witness, for example, the intensive and ongoing efforts of Microsoft, IBM, BEA and several allied companies to create a robust suite of Web services standards).

The second wave of standards follows after the value of the market has been proven, and is more likely to comprise second-level enabling or optimizing standards. It may also include what we have previously referred to as “strategic” standards. These standards are competing solutions launched by companies that are late to the party, or that feel they are suffering competitively in comparison to those promoting the original standard.

As a market matures, there may also be a third wave of standards. In this case, many of the standards are what might be referred to as “enhancing” or “maintenance” standards. Such standards may, for example, improve the quality of the user experience. Setting standards of this type may be viewed as an investment in cultivating and growing a proven market.



As a result, the number of standards efforts actually launched in a given technical area will tend to indicate the value of the market that these standards serve. Similarly, by observing the percentage of industry resources being invested in standards development in one market over another, one may also roughly measure the future return that those involved in standard setting hope to derive from their investment in one area as compared to another.

In this month's Feature Article, we focus on a prime example of these forces in action. Already this year, there has been an explosion of new initiatives launched in what can broadly be called the Web security area. In most cases, these initiatives are taking place in new organizations formed expressly for the purpose of addressing areas of concern as diverse as Spam limitation, denial of service attacks, and “Phishing” (identity theft accomplished through deceptive email linking to credible – but fraudulent – web pages).

Significantly, many of these new organizations focus on the consumer experience. As such, they indicate that the Web is now experiencing the third, or “enhancement”, wave of standard setting.

In the future, we can expect that not only will additional wave cycles be launched in entirely new areas of technology, but also that this will occur on the Internet, as the “build out” of Web capabilities is completed. Each time a new capability is enabled, the cycle will begin anew, with successive waves of enablement, optimization and enhancement.

Comments? [updegrove@consortiuminfo.org](mailto:updegrove@consortiuminfo.org)

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