From the Standards Blog

[] July 4, 2004

#17 STANDARDS, THE CONSTITUTION AND (IM)MUTABILITY

The 4th of July offers an appropriate opportunity to ask an intriguing question: Must standards evolve in order to remain unchanged?

Whether you regard that question to be absurd or important will depend upon your view of what a standard actually is. Looked at purely from a mechanistic point of view, the question is inherently contradictory. After all, does not the concept of a “standard” necessitate a fixed reference point against which something else may be measured?

In fact, no. How can that be? Because, as so often is the case, obtaining a useful answer is dependent on completely understanding the question itself. If one (appropriately) takes a utilitarian approach, a standard is a tool that is used to meet a specific need. It exists only for the purpose of satisfying that need, and not because it possesses any intrinsic meaning or value. If the need that gives rise to the standard changes due to extrinsic factors, then so also must the standard change, if it will continue to be useful.

The better question to begin with, then, is not “what is a standard?” but rather “why is a standard?” The answer to that question not only permits, but indeed requires, that a standard be permitted to evolve.

Consider, for example, the concept of a speed limit on a highway. Surely, as we all “know,” this is a safety standard. But in fact, speed limits in the United States have at times had nothing to do with safety issues at all. During World War II, the speed limit on all open roads in the United States was 35 miles per hour, neither more nor less. The reason? 35 miles an hour was the most fuel-efficient speed for automotive engines of that era, and gasoline was in short supply, given the competing demands of the armed forces. Moreover, a faster speed would have resulted in increased tire wear, and the Dutch East Indies were no longer supplying the United States with natural rubber.

In a more current sense, consider this: What (and “why”?) is a valuable wireless laptop standard? From an end-user point of view, it is not 802.11a, 802.11b or their successors (or, necessarily, an 802.11 family standard at all), but whatever the best currently available standard may be that permits reliable, easily configured, inexpensive, secure wireless communication with optimal bandwidth.

Significantly, the successive versions of the 802.11 “Wi-Fi” standard have not been intended simply to increase performance, but to address other evolving needs as well. The forces driving those needs have even been geopolitical. Witness, for example, the push to add enhanced security features to Wi-Fi not only to address technical needs, but to counter China’s contention that it had no choice but to create a home-grown wireless standard that, incidentally, would also permit it to erect a significant trade barrier to non-domestic manufacturers.

Which finally takes us deep enough into the issue to reflect on the mutability of standards on this U.S. Independence Day.

In the 216 years since the United States Constitution was ratified, it has been the standard against which all new laws enacted in the U.S. must be tested. But like the many IT standards that fall short of guaranteeing immediate interoperability, it not only needs to be periodically amended (as it has been -- 26
times to date), but it must be interpreted as well. The Architecture Board that hears the disputes, of course, is the United States Supreme Court.

Amending and interpreting a constitution, like amending and interpreting an IT standard, is a devilishly tricky business. Every IT standard (and a political constitution is no different) is the product of multiple compromises, often painfully derived, that eventually lead to the final consensus decision. By the time that most standard have been approved, a delicate balance between competing interests has been achieved, and no one looks forward to upsetting that result. Still, without the ability to evolve and to be interpreted in light of current circumstances, a standard remains static, and eventually often becomes useless. Such a standard – or constitution -- will eventually fail to meet the need for which it was created (as the United States learned, at great cost, in the run up to the Civil War).

At the end of the day, whether one is attending a standards meeting or evaluating the decisions of the United States Supreme Court, one must ultimately focus on the need that is being addressed by the tool at hand, and not invest an inflexible and totemic value in the tool itself.

Notwithstanding the strong emotions that constitutional discussions often evoke, the United States has not done too badly in that regard. After all, its Constitution is the longest-serving written standard of its type in the world today. Without judicious amendment, the independence wisely granted by the founders of the Republic to the court that interprets it, and the wisdom of those who have served on that court, the Constitution's capacity to remain immutably effective would never have been possible.

Comments? updegrove@consortiuminfo.org

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Useful Links and Information:

For the full text of the Constitution, highlighting those portions that have been affected by subsequent amendments, and linked to the text of those amendments, see:
www.archives.gov/national_archives_experience/charters/constitution_transcript.html

For an image of the Constitution, see:
www.archives.gov/national_archives_experience/charters/constitution_zoom_1.html

For additional information on the U.S-China Wi-Fi standard face off, see the May, 2004 issue of the Consortium Standards Bulletin in general:
www.consortiuminfo.org/bulletins/may04.php

…and this article from the same issue in particular:
www.consortiuminfo.org/bulletins/may04.php#trends

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