Karen Higginbottom

Advancing Standardisation for Every Day Life

Both of my grandmothers had their own little hiding spot for household cash. Oma had a cookie jar on the top shelf of the pantry and Grandma Jennie stuffed the bills into some rather constrained undergarment. To each of them, that was the level of security required to protect their interests. They (nor I) could have imagined that 50 years later, one could deposit a check into a banking account by taking a photo of it with a smart phone. And yet, in spite of the challenges today of a vastly connected network supported by amazing technology, a cell phone picture of a personal check is secure enough to protect one's household cash.

The advancement of new information technology takes place at incredible speeds. Some say too fast for standardization. But it isn't just that "data storage" technology was created; it is that there was tremendous expansion of capacity after the technology was introduced. The speed of data transmission, the resolution of digital images, the "smartness" of a plastic card, the uniqueness of biometrics --- each gains greater functionality when the technology is exploited to its limits. Now, compound each of those advancements with the complex infrastructure in which each technology must rely upon the other, first when it is originally developed and then, throughout its product lifecycle. There is certainly a need for formally adopted, international information technology standards that can be trusted over time to enable the development of globally demanded IT products.

ISO/IEC Joint Technical Committee 1 – Information Technology (JTC 1) has taken on these challenges for 25 years. The initial building blocks such as programming languages and character code sets continue to evolve to stay relevant with today's upcoming products. New areas of standardization such as distributed application platforms and services (cloud computing) and sustainability for and by information technology (green IT) are investigated and initiated. Within the 19 Subcommittees (SCs) and 2 Working Groups (WGs) of JTC 1, over 2540 standards have been published. The SCs and WGs have significant interaction with one another, enabling the referencing of each other's standards, thus improving the quality of the standards. One example of this collaboration is in the work of the "7s" – SC 17 (Cards and personal identification), SC 27 (IT Security techniques) and SC 37 (Biometrics). By working together, global requirements have been addressed such as the needs of the International Civil Aviation Organization (ICAO). Overarching requirements like security, accessibility and cultural adaptability are "built into" the standards' development. Each standards' effort is responsive to current market needs, enlisting the engagement of industry, governments and users. This broad constituency strengthens the usefulness, viability and success of the IT standards.

Early on, however, JTC 1 acknowledged that the puzzle was so much more complex than any one set of experts could address. Consortia have played an essential role in the advancement of IT technology and many specifications are globally adopted and referenced. For this reason, JTC 1 reached out not only through the well-known liaison arrangement to seek the inputs of other organizations and experts, but it developed a Publicly Available Specification (PAS) transposition process. This two-step process enables consortia within the IT community to submit their broadly implemented specifications to JTC 1 for national body review and approval. There are currently 9 approved PAS Submitters. In addition to the more than 100 published standards this effort has produced, a significant sharing of technical and operational advances has taken place between consortia and JTC 1.

To chart the next generation of standards required to advance the information technology paradigm may be impossible. But the important role that a formal standards organization such as ISO/IEC JTC 1 provides is the maintenance of the fundamental building blocks of IT standardization while still developing and advancing the next "big thing". It is enabling the interoperability of the hundreds of standards that are required such as when a smart phone picture of a personal check is transmitted to a banking account somewhere in the world. Hard to imagine what comes next but it will be great to contribute to the possibilities.

My grandmothers would never understand what I do for a living.

Karen Higginbottom is Director of Standards Strategies in Hewlett-Packard's Global Technology Programs Organization. She has been active in standards activities since 1987 and is currently serving as Chairman of ISO/IEC Joint Technical Committee 1 – Information Technology.