



*Attorneys at Law*

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## TRENDS

### INTRODUCING THE PERSONAL DATASPHERE

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**The Old Way:** Do standards serve a useful purpose? Certainly, yes. But whose useful purpose do they serve? Consider these two questions and answers:

Q: Where do standards come from?

A: From the top.

Q: Who must live with the results?

A: Those at the bottom

What I mean by this is that, while standards affect each of us as individuals in a myriad of ways, we have no role in determining what the standards are intended to accomplish and how they will be determined, unless we happen to be involved professionally in that process. True, the standards process of accredited standards development organizations ("SDOs") provides that any and all can have input on the creation of standards, but actual public involvement in most technical areas is very limited.

The impact of this reality is particularly acute in the ICT space. Unlike health and safety regulations, which are created by our public servant proxies, ICT standards are largely created by commercial entities that decide what sorts of products and services they wish to offer based solely on their judgment of what will create the greatest profit opportunities.

While the outcome of such a free-market approach is not necessarily bad, in that these economic judgments are based upon vendor perceptions of what customers would buy if it was offered to them, neither is it optimal. Why? Because commercial standards are set by pools of vendors that focus on discrete product areas: printer companies focus on printer standards, imaging companies focus on imaging standards, and so on.

Again, there is some blending of interests, in that the highly consolidated IT space includes giant companies that have put down markers in many product spaces. But these same companies only coordinate their standards activities to a limited degree, given the hundreds of SSOs (SDOs and consortia) of which they are members.

SSOs do maintain liaison relationships among themselves, but these relationships are invariably limited to only one "degree of separation", and are maintained primarily where there is a danger that their respective standard setting gears will grind together if their efforts are not in synch to some degree. Nowhere does there exist an effective way to coordinate broadly the activities between disparate SSOs to ensure, for example, overall ease of use for the user.

Which brings us to the question of whether there is a better way in which standards could be created in the future. And also to the realization that "standards", in the traditional sense, will often not be up to the task.

**The Challenge:** In fact, I believe, there is a better way to create the "commonalities" that would meet the needs of the future. Not only is there a better way, but I believe that coming up with that better way is essential at this point in time, due to the new challenges that will face us as individuals in our increasingly data driven, interconnected world.

What are those new challenges? Consider this:

Ten years ago, people did digital work exclusively using desktop or laptop computers, took pictures using traditional print-process cameras, listened to music on CDs, and produced electronic documents that were invariably converted into paper copies. All of the information thus created was stored in tangible form, and was portable in that form. For most of humanity, as a practical matter, there was no Internet or World Wide Web.

Today, people compute using a variety of devices, including PDAs and other wireless enabled equipment, increasingly take pictures using digital cameras, capture and access music in MP3 file form, create and store documents digitally, exchange all of these data files via the Internet, and increasingly store the same data exclusively in digital, rather than tangible form. Moreover, individuals are likely to acquire, exchange, store, and access data from many access points, using many types of devices, and at any time (including at work).

Concurrently, with the evolution and popular adoption of the Web, the types and value of data that is being made available in digital form is expanding explosively. Managing that data is becoming an increasing challenge. Further, virtually all types of data important to one's everyday existence are becoming digitized and are managed in that form: academic records, vehicle registrations, personal banking, and so on.

Ten years from now, one can only expect that this trend will have accelerated to a point where life will be impractical without seamless access to all imaginable types of data, anywhere, anytime. The importance of acquiring, securely maintaining and accessing that data therefore will become paramount. If we ever lost our data, we would be reduced to digital non-persons.

In short, we'll all be drowning in data -- pictures, music, documents, health data, employment data, and on and on and on. How will we organize it? Archive it? Access it? Maintain it from cradle to grave (and beyond?)

**A World of Virtual Spheres:** In 1925, a French Jesuit geologist/paleontologist/philosopher named Pere Pierre Teilhard de Chardin wrote a seminal article visualizing a new layer of consciousness surrounding the globe, comprising all human thought and culture. Akin, in its own way to the biosphere or the atmosphere, Chardin called it the "Noosphere". Years later, with the advent of the Internet and the Web, many found Chardin's concept to be even more prescient and startlingly relevant.

In truth, we are increasingly living in a world of virtual, data-driven spheres. The Web, with its almost infinite possibilities, creates a universally accessible interconnection to all of the world's knowledge that has been converted into digital form; business-owned spheres represented by myriad wide-area networks; governmental spheres assembled at the local, state and national levels; knowledge domain libraries created by universities.

And, I would propose, 6 billion "personal data spheres."

What is a personal data sphere (PDS)? I posit that humanity is irreversibly entering an era in which every individual will be living his or her life within an ever more rich and dynamic PDS. An individual's PDS will begin to be created before birth (e.g., prenatal medical records, parental estate planning documents, etc.), will accompany the individual throughout life, and in many respects will need to be accessible after death by the former owner's estate, children, the genetic counselors of the former owner's descendants, and so on.

The importance of enabling the easy maintenance, secure storage and ready access of the PDS will be an essential element of the human condition for the rest of foreseeable history. Accordingly, facilitating the creation and maintenance of the PDS needs to be given the same degree of respect and priority as business data spheres, government communication systems and the Internet.

As earlier noted, vendors have little incentive to coordinate the acquisition, management and access of diverse types of personal data. Accordingly, except to the extent that addressing these issues must be coordinated to serve the commercial interests of vendors, there is no incentive for traditional standard setting players to direct their efforts to optimize the ease of dealing with data of all types for the individual end user. Hence, the PDS will be enabled only as, and in such a way, as will serve the uncoordinated best interests of vendors. The result will assuredly be a hodge-podge of disparate interfaces, database structures and access protocols.

While traditional market dynamics will not lead to the efficient development of a robust infrastructure to support the PDS, consider this: Ultimately, the best interests of vendors will be well served by the most rapid, effective and user-friendly development of a standardized PDS environment, thereby enabling new products and services to be created and offered to end users. As the PDS becomes widely implemented, a 6 billion strong market will be created of potential customers seeking a wide variety of goods and services that will help them input, manage, secure and access their PDS on a life-long basis.

For example, although initially a "PDS Lite" software application could be created for installation on a PC, the logical home for hosting such vital information is a secure remote server. This model would create huge additional demand for server space, enhanced ISP services, broadband access and faster processors. Similarly, the adoption of digital cameras, personal financial software and services, video recorders, music players, cell phones with advanced features (e.g., cameras) and other digital devices should dramatically increase, once a seamless and intuitive environment is created to store, manage and access digital data.

An effort should therefore be launched to focus attention on the concept of the PDS, and to manage the coordination of the evolution of IT and communications infrastructures to assign an appropriate priority to facilitating its development. In particular, this will entail ensuring that existing and evolving IT and communications standards facilitate, rather than hamper, the successful evolution of the PDS.

**Requirements of the PDS:** In order to meet all needs, a PDS must at minimum enable:

- Easy input of all types of data now or in the future imaginable
- Easy organization of that data in an intuitive way
- Secure storage and backup
- Appropriate rights management and privacy protection, including with respect to government access
- Ready access from anywhere, at any time, through any currently available or future digital device
- Single sign on owner access to PDS information that is maintained by third parties (e.g., physicians, government, etc.)
- Seamless exchange with anyone granted appropriate rights, anywhere in the world
- Portability throughout the life of the owner

**The Better Way:** The question then arises, how could one create the standards infrastructure to enable the rapid deployment of the PDS? Clearly, no current SSO would have the domain expertise to tackle all of the necessary technical aspects of the PDS. Similarly, there is no precedent for the type of cooperation among disparate SSOs that would be required to enable the PDS. And finally, how would one manage the inevitable turf battles among SSOs, not to mention the jockeying of vendors active in so many different product areas?

The key to all of these questions is that such a new organization must set standards from the bottom up, and not in the traditional, top down, manner. A major hand in the management of such an organization must be played by the end users for whom an efficient, effective technical platform for the PDS must be

provided. On the other hand, that perspective must be balanced by the realities, commercial interests and capabilities of the vendors that must provide that platform.

Obviously, an entirely new type of organization would be needed to manage such a project. Ultimately, it would be necessary for it to assemble existing standards where they were appropriate, influence the creation of new standards in process in other SSOs, plug the gaps that remained, and perhaps develop the code for the all-important interface that would provide an individual's access to her PDS.

The first steps that would be required to structure a PDS SSO would include the following:

- Identification of interest groups that may or should be involved (e.g., vendors, standards bodies, non-technical associations, etc.)
- Determination of the most appropriate organizational structure (e.g., consortium, SDO, open source project, or some combination of one or more of the foregoing)
- Identification of areas where existing standards may be used
- Identification of missing elements
- Specification of data types (hundreds, if not thousands) and any unique needs of each
- Creation of a schematic prototype of the PDS interface

***Lost Opportunity or Wave of the Future?*** But now, let's return to the present. Will we mount the type of effort that would be needed to create something as manifestly important to each of us as the PDS? Or will we allow the technical infrastructure that we will each have to deal with for the rest of our lives to develop in a chaotic, inefficient and ultimately ineffective fashion?

The answer to that question will tell us whether the ICT world of today is up to the challenges of setting the commonalities that will be urgently needed in the future. Absent a resetting of the consciousness of the standard setting community, the answer to this question will be disappointing.

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