

Regulating Electronic Commerce using XML

Development of standards for the regulation and widespread interfacing of e-commerce

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E-commerce is much more than the opening up of a new, online sales channel for an enterprise, it is about using technology to streamline a company's business model, creating savings and increasing efficiency, lowering costs and establishing closer, more responsive relationships with customers, suppliers and partners. A lot of businesses are trying to make further use of their presence online, with increased levels of interaction and services, mapping existing physical business processes in a virtual environment. The result of this is an increase of financial transactions being carried out in what has become the commercial frontier of cyberspace. Whilst the existing problems of carrying out business remain, a myriad of new problems have been created due to the different implementation strategies undertaken by these enterprises and the many technologies available to carry this out. The resulting situation is that of separate commercial "islands" created that whilst functioning adequately in their specific areas cannot extend in scope, thus defying the ontology of commerce. The need to standardise on these considerations becomes more apparent. In this regard, attempts to regulate the conduct of financial transactions and its relevant aspects on the Internet medium, are already underway by various bodies with varying degrees of success. The aim is that of protecting the rights of consumers and users whilst building public confidence in e-commerce. The establishment of new technologies and methods of conducting electronic business are constantly posing new problems that have to be considered, thus making this process even more difficult.

This research analyses current e-commerce standards and technologies, and their validity in safeguarding online business, identifying where they are lacking and in what they might fail if not regulated by operational parameters. The solution aims at providing a better insight on how to mirror this physical regulation of the media with the virtual regulation of the processes constantly occurring online, defining parameters by which transactions between heterogeneous systems should abide, thus enforcing the privacy and security of the transactions and their mandates. The amalgamation of the various facets of the research carried out would enable the implementation of a possible set of such parameters, within the development of a prototype standard for the virtual regulation of online business.

While various entities have developed their own standards as part of a solution to this problem, these standards vary in solution focus, use and requirements; a number of which try to solve specific issues such as financial reporting and EDI integration, for example, rather than providing a level concrete solution. To substantiate this point, some of the specific Standard implementations can in fact plug in together to provide a valid solution in themselves, as these complement each other through their separate yet related areas. Standards in themselves should not be in direct competition with each other, as this would leave the current situation in a status quo position. Rather, they prove their validity for the enterprises adopting them, due to the requirements of the individual situations, but with the facility to interact seamlessly with other standards.

From this research, a framework for a new general business standard named ECXML (Electronic commerce extensible mark up language) has been set up and implemented, allowing an enterprise to use this standard to provide a description of the business structure, irrespective of the area of business, to allow for the integration whilst the working system being developed aims to demonstrate the integration that can be achieved though the use this standard and other standards, that enable the integration of such systems without effecting, as much as possible, the particular enter-

prise's online business processes, while still being flexible enough to allow for the future evolution of the standard to cater for products and services not envisaged at the point of creation.

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