

Abstract



We would like to understand the interests of our target audience. Please register at www.softmetaware.com/whitepapers.html to provide us with some information about yourself, and to obtain access to the full content of all SoftMetaWare white papers.

IT Standards

Managing commodity products and services

Author: Jorn Bettin

Version 1.0

July 2006

Copyright © 2006 SoftMetaWare Ltd.

SoftMetaWare is a trademark of SoftMetaWare Ltd.

All other trademarks are the property of their respective owners.

SoftMetaWare



| | | |
|-----------|---|-----------|
| 1 | INTRODUCTION | 3 |
| 2 | STANDARDS DEVELOPMENT..... | 4 |
| 3 | GUIDING PRINCIPLES FOR SUCCESSFUL STANDARD ADOPTION..... | 5 |
| 4 | INCREASING QUALITY AND PRODUCTIVITY..... | 6 |
| 5 | IDENTIFYING AREAS THAT MAY BENEFIT FROM STANDARDS COMPLIANCE.... | 8 |
| 6 | THE INCREASINGLY STRATEGIC ROLE OF OPEN SOURCE SOFTWARE..... | 9 |
| 7 | EVALUATING AND SELECTING OPEN SOURCE COMPONENTS..... | 11 |
| 8 | RAISING THE LEVEL OF ABSTRACTION..... | 11 |
| 9 | BEYOND STANDARDISATION | 12 |
| 10 | THE VALUE OF CERTIFICATION..... | 13 |
| 11 | STANDARDS FOR PROCESS, QUALITY, AND SERVICE DELIVERY | 14 |
| 12 | SOFTWARE INTEROPERABILITY STANDARDS..... | 16 |
| 13 | CONCLUSION | 17 |
| 14 | RESOURCES..... | 18 |

1 Introduction

The increase in IT related standards since the invention of the Web in 1989 can be seen as an indication of maturity of the IT industry. Ten years ago only a small fraction of personal computers was connected to the Web. Today, all kinds of devices that contain software - mobile phones, digital cameras, iPods, cars, and even washing machines - provide interfaces that allow them to communicate with other devices. Similarly, in the realm of enterprise software, today's applications are typically interconnected with numerous other systems, across organisational boundaries and across a range of implementation technologies. The development and operation of such heterogeneous systems is often performed by distributed, global teams. No wonder that more and more organisations are taking a serious interest in software, process, and quality standards to facilitate interconnectivity and communication. But adoption and implementation of standards comes at a price. Which standards should an organisation embrace? The answer depends heavily on the nature of the business, and it is highly recommended to do some homework before committing to achieve compliance with specific standards.

Standardisation is a process that is riddled with difficulties. It starts with the recognition of the need for a standard, then getting these with a common interest to agree on the scope of the standard, and finally, developing the standard. Collectively, on a global scale, users of information technology exert significant pressure on IT suppliers to develop and adhere to standards, reminding them that if they do not they will become uncompetitive. This pressure has forced IT vendors and service providers to create and support organisations such as the World Wide Web Consortium, the Object Management Group, and the Carnegie Mellon Software Engineering Institute, that pledge to deliver standards for software interoperability and for assessing service quality.

The most successful standards are those that apply to software that is widely considered a commodity. Standards such as HTML and TCP/IP fall into this category. They provide the base or foundation for countless applications.

In contrast, attempts to develop useful standards for interoperability at higher levels of abstraction have either failed, or have led to standards of limited usefulness – take for example the XMI standard for exchanging UML model information. The level of standardisation for interoperability between enterprise software represents the extreme end of the spectrum, where practical interoperability is close to zero. Simply ask any IT manager in a larger organisation about the costs involved in integrating enterprise software packages from different vendors.

Besides technical software standards, there are a growing number of standards that relate to IT service delivery, software development processes, and quality assurance measures. Two flagship standards in this space are the CMMI standard for process improvement and the ITIL standard for IT service management. The former is popular with software development service providers, and the latter is establishing itself as a core standard for managing IT service delivery.

2 Standards Development

In organisations that use rather than develop information technology solutions there is a tendency to overestimate the benefits resulting from the adoption of standards. The best way to bring expectations down to a realistic level is to mentally step into the shoes of an IT vendor, and to examine the role of standards from the other side of the fence.

- Standardisation is triggered either by competitive pressure in a mature industry where the prices for basic services have declined significantly, or it is triggered pro-actively by industry consortia whose members would like to sell new products that require a new technology platform as an operational basis.
- When standardisation occurs as a reaction to market pressure, competing vendors are forced to consider the development of a common platform that provides basic functionality. Vendors cooperate on standards and they compete on implementations. Typically each established vendor in a consortium-driven standardisation initiative pushes an agenda that reflects their specific area of specialisation. The result of such design-by-committee activities is predictable bloated, overly complex standards, and implementations that offer minimal interoperability.
- In case of pro-active standardisation the situation is somewhat better, provided that the new target market is perceived to be large enough to leave sufficient room for a range of vendors over a substantial period. Examples of pro-active standardisation can be observed in the telecommunications industry. The business models of network operators, hardware vendors, and software providers in the telecommunication sector critically depend on collaboration on standard development.
- The last five years have demonstrated that there are viable alternatives to consortia-led standards development. The idea of mandating Open Source reference implementations for software standards has finally given credibility to the term Open Standard . The licence attached to open reference implementations of the WC3 for example makes implementations available to all organisations worldwide, whether or not they are W3C members, and the licence is not conditioned on payment of royalties, fees or other consideration.

Bruce Perens, who announced "Open Source" to the world, and who published his first Open Source program in 1987, sums up the problem of consortia-based standard development as follows:

In the consortium projects, there's always the handshake with one hand and a dagger in the other.

Standards by necessity are part of the public domain, and certification of standard compliance is either performed directly by a standards authority or by an appropriately qualified agent of the standards authority.

Technology standards mostly focus on interoperability, which implies a common technology platform. In theory interoperability should entail exchangeable implementations, but practical reality shows that this is not always the case. User pressure can easily lead to a premature agreement and release of a standard. In the interest of generating sales vendors will happily conform to the standard in the full knowledge that the standard does not cover important features.