THE Open GROUP

Preventing IT Earthquakes

Why Certified Conformance to Standards is Needed

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Preventing IT Earthquakes

In the last days of 2003, the world was shaken by two earthquakes of similar magnitude on the Richter scale, but with very different results.

On December 22, 2003, two people were killed when an earthquake measuring 6.5 on the Richter scale shook the California city of Paso Robles, destroying one historic building. It was reported as being quite noticeable in Santa Barbara, some 130 miles away: buildings swayed for a good thirty seconds, and there were localized power failures for a few hours.

On December 26, 2003, an earthquake measuring 6.6 to 6.7 on the Richter Scale destroyed most of the ancient historic city of Bam in southeastern Iran, killing more than 30,000 people, injuring tens of thousands, and leaving many more homeless as the buildings (most made of mud bricks) collapsed. To make matters worse, the two main hospitals also collapsed – killing or wounding most of the staff and patients.

A UNICEF report, focusing on the effect of the Bam earthquake on children's education, brings a much more personal perspective to the direct results of the earthquake and also the challenges of restoring normal life: "Amongst the many challenges faced by education authorities are difficulties in finding teachers able to cope with the return to the classroom, the destruction of 90 percent of school buildings, and the dispersal of children into temporary camps. One third of Bam's teachers were killed in the earthquake, along with up to 10,000 school children, according to official figures. Those that remain are suffering from stress and psychosocial trauma, in addition to the practical difficulties of caring for families."

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The contrast between the standards employed for building works in the two countries could not be illustrated more starkly. But this is not only a story about developing and using standards. The ability of buildings in California to withstand earthquakes of this scale is also testament to the verification of conformance to the standards. Because without strict enforcement of the standards, it is always possible, perhaps inevitable, that corners will be cut with potentially devastating consequences.

In the case of buildings (and most other important areas of life), the standards and their verification are a matter of legislation. When we look to our own industry we are, perhaps, fortunate that the legislative burden is very light. Yet the consequences of failure are becoming ever more serious. Will legislation continue as today, or will the burden increase? As boundaries become increasingly permeable, so the risks and potential consequences increase exponentially. In such circumstances, the only way to prevent future legislation driving product evolution is by industry leadership. Products and services must be conformant to open standards, and certified as such.

At first glance we tend to think of the risks as being related to security issues alone and, while these represent a significant threat, they are not the only cause for concern. The reality is that in addition to security, we have to focus on all of the "-ilities" – attributes such as manageability, interoperability, portability, usability, and others, which come under the wonderfully descriptive term of "non-functional attributes".

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If we think about how a city develops, we can envision the many different physical elements required. To oversimplify it for illustration purposes, there is the infrastructure; that includes the utilities (water, gas, and electricity), transportation, and communication. There is the "storage" (houses, schools, libraries, shops, offices, stations, etc.), which has many components and sub-assemblies.

The "applications" that we use with these services sub-divide into greater and greater levels of detail: there is the entertainment class of applications that includes home entertainment and television which, in turn, include programs; there is the travel class that includes personal transportation, which includes the car which, in turn, includes re-fuelling. And then there is the "user interface": the TV remote; the fuel filler. At every level there are standards and verification that those standards are being adhered to, for security (including safety), manageability, interoperability, portability, and usability.

We also know that there are very few green field sites: the planner often has to start with a legacy, which cannot simply be removed or ignored. The historic building destroyed by the earthquake in Paso Robles is an example. In the US the building code requires that when modifications are made to existing infrastructure – including personal dwellings – they must be upgraded to conform to current standards. Planners start with an architectural framework and a set of standards and regulations that all new implementations need to comply with and which provide guidance for integration with the legacy.

Architects, certified as professionals in the use of the TOGAF ADM for producing open architectures, are a critical element in enabling our industry to create the IT "cities" of the future.

Our world is very similar, although in its infancy by comparison. Enterprise Architecture is only now emerging as a profession. That there is a strong need for it is evidenced by the volume of downloads of the TOGAF Architecture Development Method (ADM) and by the demand for TOGAF training and certification. Until now architecture development had been the province of the few – the high priests in the cathedral, if you will. But as one delegate at The Open Group's recent conference remarked: "Proprietary architecture will go the way of proprietary software". Architects, certified as professionals in the use of the TOGAF ADM for producing open architectures, are a critical element in enabling our industry to create the IT "cities" of the future.

Architecture and training are necessary but not sufficient. We need to ensure that we have standards and verification of adherence to those standards for each layer of the infrastructure. The Open Group Security Forum's Enterprise Vulnerability initiative and its series of guides and best

practices will strongly support those needs and, working with other groups such as the Jericho Forum, will progress the needs for security in an environment where boundaries are becoming more permeable and where we need to strike the most effective balance between being open for business and being safe and secure.

What makes this industry exciting, while at the same time brings new challenges, is the rate and type of innovation. Web services are an example. The expectation, supported by the results of some pilot trials, is that huge benefits will accrue to those organizations that implement web services. One of the challenges inherent with web services is in the area of manageability. Management has a huge part to play in making our IT cities of the future safe places to live: instrumentation has the potential to provide the smoke detectors and the burglar alarms we need. Yet web services add a whole new dimension of complexity and diversity. The Application Quality/Resource Management (AQRM) initiative will address this challenge, but before it does so, it needs feedback on the requirements from members of the community.

While each of these initiatives delivers immense value back to the industry, we need a much bigger, more concerted effort towards bringing together the big players in the industry, and taking a "city planner" approach to putting our collective houses in order. That order *must* include a sufficiently broad set of open standards, products that are conformant, and programs that enable vendors to certify that conformance – both for individual products and for complete systems, be they new or updated.

At the end of the day we do not want to be hit by the IT equivalent of an earthquake.

But if we are, I would rather be in Paso Robles than Bam.

About the Author

Allen Brown is the President and CEO of The Open Group. He has been with the company since 1993, when he joined the then X/Open Company Limited with the dual responsibility of Chief Financial Officer and Vice President of Business Development. In this position he played a significant role in the development of the certification of conformance to the Single UNIX Specification and the licensing of the UNIX® trademark. In 1994 he assumed the role of Chief Operating Officer and was actively involved in the merger of X/Open Company Limited with the Open Software Foundation. After the merger, as part of the integration activities, he was appointed Senior Vice President. In 1998 he was named Acting President and CEO, and later in the same year he was confirmed in his current position of the President and CEO of The Open Group.

Prior to joining The Open Group, Allen managed a consulting firm in London, which he founded in 1987. He enjoyed a mix of financial management and general management assignments, which included advising venture capitalists on investment decisions, and consulting on IT systems design and implementation. His clients included a broad range of companies and organizations in start-up, turn-around, and growth situations, in a variety of industries including manufacturing, and distribution and retail.

In 1984 Allen co-founded Cambridge Venture Management Ltd., a consulting firm specializing in the provision of experienced management to small and developing companies on a part-time basis, based in Cambridge, England. During this time he led a number of general management and financial management assignments. From 1972 to 1984 Allen worked in various financial and management accounting positions for Unilever plc and Unilever Computer Services Ltd.

Allen holds an MBA from London Business School. He is married and resides in San Francisco, California and Colchester, England.

About The Open Group

The Open Group is a vendor-neutral and technology-neutral consortium, whose vision of Boundaryless Information Flow will enable access to integrated information within and between enterprises based on open standards and global interoperability. The Open Group works with customers, suppliers, consortia, and other standards bodies. Its role is to capture, understand, and address current and emerging requirements, establish policies, and share best practices; to facilitate interoperability, develop consensus, and evolve and integrate specifications and Open Source technologies; to offer a comprehensive set of services to enhance the operational efficiency of consortia; and to operate the industry's premier certification service, including UNIX certification. Further information on The Open Group can be found at http://www.opengroup.org.