

2003 Executive Forecast

Compiled by Jason Hensel

We here at Environmental Protection, found two executives to open up and predict what will happen in the environmental field in 2003. Lawrence Goldenhersh, president and CEO of Enviance, discusses Web-based technology as it pertains to the environmental professional, while Aziz Jamaluddin, president of EPCON Industries, foresees trends in pollution control industries.

We thank our two executives in this article, as well as the other writers in this issue, for taking time out of their busy schedules to offer their viewpoints on the upcoming year. Whether you agree or disagree with their opinions, I think we can all agree that we hope 2003 will be a bigger and better year for environmental professionals worldwide. — Jason Hensel

The Unbeatable Web

By Lawrence Goldenhersh, JD

Before the Internet burst into the nation's consciousness, client-server technology dominated the environmental health and safety (EHS) landscape and was widely regarded as a painful-to-use but powerful efficiency tool. This client-server software was installed within a corporation at great expense, required extensive staff training and an army of people to upgrade the technology and keep it working on desktops across the facility. Roll-up of data from facility to facility could be accomplished with this technology, but it was not designed for this type of distributed data gathering. Systems that provided such roll-up were ponderously slow, required substantial hardware investments, allowed relatively few simultaneous users and required a large staff of information technology (IT) professionals to maintain it. Attempts to compensate for the



inherent problems with client-server architecture by putting a Web face on these client-server products has more often than not resulted in additional hardware requirements and poorer performance.

The Web Changes All The Rules and Assumptions

The advent of Web-based technology has fundamentally changed all of the rules that had applied to client-server technology. Implementation of a software product, once a monumental effort involving hundreds of hours of consultant and in-house time, now has become a simple matter of obtaining Internet access. Such access empowers the user to reach a software product that operates over the Web with speed at least equal to its client-server predecessor. Integration with data collection and Enterprise Resource Planning systems can now be achieved quickly and cost effectively by Web providers who have built their products on new development platforms that were designed to expedite integration of disparate forms of information through the use of Web services tools.

Data storage, which in the client-server days required industry to invest millions in hardware and support, is now something that can be purchased from a Web-based software provider along with access to the software product itself. Computer maintenance, both on the server side and at the users' end, a substantial cost item in the client-server arena, has been completely absorbed by the Internet software provider. Upgrades and maintenance, the (hopefully) annual ritual in which client-server companies provided improvements to their products that then had to be implemented by IT professionals, has disappeared completely with the Web. In contrast, Web-based software providers are constantly migrating improvements into the product on the fly, without impacting user access.

And this is only the beginning. Web tools now in use allow a company to cost-effectively transport data, over the Web, in a secured (encrypted) form, from its legacy operating systems to Web-based software products that allow the data to be reused for EHS purposes. For example, fuel level information from the operating system used to manage a tank farm has been seamlessly, securely and cost-effectively collected and transported across the Web to a compliance software product, where it is then used to compute emissions numbers that compliance specialists monitor to ensure compliance with relevant permit conditions. Moreover, the customer can accomplish all of

this data collection, and thereby reuse and leverage its existing data, without having to purchase a single piece of additional computer hardware.

You Can't Get There From Here

Notwithstanding the documented advantages that the Web-based architecture and Web tools deliver, traditional client-server-based companies have found it extraordinarily difficult to cross the vast expanse that lies between client-server land and the Web. It is no easier to convert a client-server product to a Web-based tool than it is to convert a fixed wing glider to an F-15. Such conversion requires extensive modification to the software code and, perhaps, architecture changes to the database. It also requires an entirely new set of development skills not found in traditional software companies today. Even if the new skills are acquired, this conversion will cost millions of dollars, which must be financed out of profits due to the lack of interest from the capital markets for such projects. Moreover, the conversion time runs in years, not months. Lacking the financial and technical ability to perform the redesign of their products, while at the same time supporting their existing client-server customer base, these providers are precluded from offering the new technology to customers looking for a better way.

In some instances, rather than attempt to build the product line on the new technology, providers have sought to expand their functionality offering on the outdated platform by acquiring competitive client-server technology products. While the combining of legacy technology might, indeed, create a Web, it is one from which the provider is unlikely to escape. Such combinations, based as they are on the antiquated client-server technology, do not deliver the ease of implementation, expansive simultaneous use or the reduced cost of an Internet-based product. With each acquisition, such providers only increase the millions of dollars and years of time that they will need to spend to convert the technology to the Web-based platform that offers the vastly improved performance sought by customers today. Six cats in a bag does not a fur coat make. Unfortunately, another approach has been to simply promise Web-enabled or Internet-based conversions of legacy products; as such conversions do not replace either the underlying problems with data flow or the problems with client-server architecture, they are conversions in look and price only.

Neither Time Nor Customers Wait For Any Provider

Companies that are using client-server technology and have not made the decision to abandon the technology have a stark choice to make. They can choose to wait the several years that it would take for a client-server provider to convert its technology to the Web and hope that the company finds the (presently unavailable) financial backing to support this Herculean task. They can embark on their own software development effort, risking that they can beat the odds of disaster facing a company that embarks on a task outside of its core competency. Or they can leave the existing technology in place as a safety net while, at the same time, experimenting with a Web-based provider that offers the entire spectrum of functionality for one monthly fee.

Unburdened by the weight of having to support inefficient and inflexible client-server products, these Web-based providers have been free to deliver improved environmental compliance technology on a platform that is far more flexible and agile. Implementation is often a matter of simple mouse clicks by the user, rather than the tortuous code writing exercises that were characteristic of the client-server days. Moreover, because Web-based providers offer their functionality on a monthly basis, the outlay frequently comes in the form of an expense (rather than capital) and rarely rises to the career-limiting level customarily associated with client-server implementations. In addition, because access to the product can be gained anywhere there is an Internet connection, companies can turn to their EHS consultants to assist with the evaluation and implementation, further lowering the barrier to conducting a worthwhile test.

Web-based products are tailor-made to be tested thoroughly before a substantial outlay is made, and providers are betting that the product's flexibility and power, not sales presentations, will win the customer over. The time to test drive the future is now.

Lawrence Goldenhersh, JD, is the founder, president and CEO of Enviance, a Carlsbad, Calif.-based environmental technology company. Prior to founding Enviance in October 1999, Mr. Goldenhersh was a partner at the Los Angeles law firm of Irell & Manella where his practice included the representation of information technology companies in intellectual property litigation. Mr. Goldenhersh received his B.A. from Duke University and law degree from the University of Virginia.

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