

The Gap Between Potential and Reality

By Chris Moyer, CTO, Europe, Middle East, and Asia , EDS

This Chief Technology Officer Says Things Are Rarely as Simple as They Look

People say that IT integration is getting easier. I don't buy it. The messages in the marketplace about service-oriented architectures and Extensible Markup Language easing the challenge of integration don't match what I see every day.

An integrator like EDS takes on projects with many moving parts. When a vendor tells me it has a simple connection model, I get skeptical. Just for starters, I ask if they've thought about speed, performance, error handling, and prioritizing activities. Usually they haven't. We still have to balance the claims we hear about products against what it takes to make things work in the real world and to build solutions to run effectively rather than just to function initially.

When I buy technology from multiple vendors, they each invariably promise me that the products will all work together. But I often wonder when and how they have confirmed that. No one works in a sterile environment, where applications have no effect on what you're doing. Business applications have to work in an orchestrated way. Integration takes effort in the design, validation, and testing stages. I haven't found the magic glue. It still takes experience and hard work.

I'm frustrated that some vendors keep sending the message that integration is simple. I have been pulled into jobs that sounded simple at first but turned out quite different. Because of some solid industry standards, it is easier to get hardware devices to work together. But companies today are looking for business impact from a combination of hardware and software to automate, simplify, speed, or improve a business process and differentiate them from competitors. That compounds the complexity. (Even an exception to this trend, the iPod—which wraps an MP3 player with digital rights management—is pretty simple until you want it to talk to a second or third iPod; and Apple is moving away from the digital rights with its latest offerings.)

My worry is that, as an industry, we have mismanaged client expectations of products. We have been told that service-oriented architecture will solve our problems. But not that long ago we were told that object-oriented technology was going to solve our problems. Things may be simpler at the component level. Standards make it easier to connect. However, our inventory is growing and we have to manage a much wider, diverse range of components. As that number moves from the tens to the hundreds, to the thousands, and they all get smarter, we need to design integration in and plan for operations in a connected environment. Vendors say that products can snap together, and frequently they do. But sometimes they snap apart when volume increases or the exception process kicks in.

All this begs the question, of course, of why we still buy technology. It's because IT is still a good investment. It still provides business value. There are those projects that fail and shake our confidence. But we still need the benefits that come from using IT to increase accuracy, improve customer service, and speed response to changing conditions. We keep looking for solutions that give us a competitive edge.

We should acknowledge, though, that we are designing things that no one has designed before. Take a look at other industries that tackle complex projects. The Channel Tunnel, the underground link between England and France, wasn't finished on time; it was 80 percent over

budget; and it isn't making money now. But everyone uses it. The new Denver airport went 200 percent over budget with its now famous luggage-handling fiasco. But it still carries passengers in and out of the region every day. England's Wembley Stadium recently overran its budget and schedule, and it's certainly not the first football stadium ever built. Each of these projects used more tried and tested components (concrete and steel) than most IT projects. They have disciplined standards of architecture and engineering techniques with hundreds more years of refinement than the IT industry.

IT still has too many moving parts. IT competencies in general have not increased to match this increased complexity. We need more technological innovation not only to make the connections more reliable but also to let us see inside an end-to-end business connection. In the meantime, we have to rely on good engineering, putting measures into applications, and designing to run.

As an industry we need to be more transparent about how things get glued together. We have to find a way to share more knowledge. We collaborate a great deal when we create software, but not as much when we need to connect software. I'd like to see the industry step into that breach. Software vendors, keep your competitive edge, but open up a little on how you work with other products. Tell us where the limits are, what works, and what are still early versions and shouldn't be used in certain circumstances. We'll all benefit.

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