Mike Nelson – SED article

What Legos Can Teach Us About Designing Technology Solutions

It's always amazing to me how much knowledge a person can absorb over the years. I've been in Information Technology for over 21 years, and I still learn new things about technology almost every day. What surprised me awhile back though was what I learned from my son and a pile of Legos and how it helped me be better at designing technology solutions.

My son has always been fascinated by Legos. As he has grown up, he has pretty much mastered the art form of building something from literally nothing, visualizing every piece and its placement, and paying attention to every detail. That style of thinking is just about how I go about designing solutions for technology, but as I learned from my pile of Legos, it has a few flaws.

The first thing I noticed was that the Lego pieces are extremely agile in nature. They can connect to thousands of different or like pieces, and in many different ways. When we design solutions, most of the pieces are hard-coded to fit here or there, but not to just about anything else. I'm not talking so much about the physical layer connectivity of the solution, but rather the application layer. Applications have requirements, including dependencies on other applications and interfaces. When the solution includes these applications, it immediately becomes less agile. Legos, on the other hand, do not often suffer from this predicament.

Let's take an example of designing a virtual desktop solution. Going beyond the incorrigible inclusion of vendor-lock by some of the solution providers, take a look at how agile their products are. Not only how their applications interact with each other, but how they would interact with any others that may be included in the solution. Too often, this step is missed or passed off as "it will just work". More times than I care to remember, it hasn't just worked, and a retrofit or rip and replace had to be done, both before reaching production, but sometimes after, which wasn't good. Now, we are starting to see more vendors that are developing software for this space are becoming more agile, but the adoption has been slow compared to the ever increasing speed at which the technology is changing.

The second thing I noticed when I was attempting to build a rogue empire space station (it sounds cool, but it didn't quite turn out in the end) with my son and my pile of Legos, was that by adding one piece to something that was already built, it changed the aspect of what I intended it to be. I added a few more pieces and it transformed into something completely different. I then related this in my mind to building solutions that are more modular and dynamic in nature rather than static. By having a base design and being able to build it vertically, but also horizontally, increased the value of the solution by an unlimited degree.

Now tying this all back to vendors and their software solutions, the parameters of the initial project, the anticipated end result, and the vision to predict what may or may not be necessary in the future is the really the “magic touch” of designing a great solution. In reality, can all this be done effectively within a scope of a project, on time, and on budget? I don’t have the answer to that, but with a little help from my Legos, I believe now that I’m getting a little bit closer than ever before.