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Tier1Research

T1R Insight: datacenter containers - paper or plastic?

Datacenters and Colocation

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We thought there was a lot of buzz in years past about containers as they relate to datacenters. The conversations and interest as of late, however, have increased dramatically. We have historically been against the concept of 'containerized datacenters,' mainly because the historic datacenter container products have come from self-serving server manufacturers that, in our opinion, were simply a way for them to capitalize on the container hubbub to sell more servers. Containers, however (at least the kind we care about in a datacenter), are evolving. The word 'container,' while it instills an element of confusion (albeit not as confusing as 'cloud'), is starting to overlap with what we have generally tended to call the 'modular' datacenter.

It is somewhat puzzling to us, really. There seems to be some savior-like connotation that goes along with talking about datacenter 'containers' – as if their sheer existence will rid us of all of our datacenter build/cost woes as well as cure world hunger. We get the question more times than we can count: 'Is the datacenter container the next wave of future datacenter construction?' To us, this isn't much different than asking 'paper or plastic'? What do we mean? We believe that the next evolution of datacenter construction will be modular in its form, with building blocks and standardization being the cornerstone to the concept. These blocks, in a Lego-type fashion, will be pieced together on-site, and will (hopefully) eliminate a lot of the time, labor and cost associated with the fully customized design/build projects of yesteryear. Whether these blocks reside within ISO containers or pre-fabricated proprietary housings is largely irrelevant. The important point is that they are modular, scalable and able to be pieced together.

Will 'containers' be an element in future datacenter designs? This is somewhat of a misplaced question, since in reality they already are. Take backup generators, for example. These already (in most cases) are shipped and reside on-site in ISO shipping containers. T1R expects more of the 'pieces' to evolve to meet the final goal. What we don't expect, however, is for these additional building blocks to come from the server manufacturers. We will likely continue to see server-filled containers come from **SGI**, **Hewlett-Packard**, **IBM** and the like, but the real modular datacenter is more likely to come from folks that already supply the pieces in today's datacenter – HVAC or power equipment manufacturers, or perhaps the traditional design/build engineering companies with countless datacenter construction projects under their belts.

During the most recent Uptime Symposium event, we had the chance to sit down with Mike Manos (**Nokia**) and Dan Costello (**Microsoft**) in a bit of an informal, friendly atmosphere with the expectation that we would get a little scrappy in this discussion - those gentlemen, being 'pro-containers' in one corner, and us, being 'anti container' in the other. We love a good heated debate and we were ready to rock and roll. As we got into the discussion, however, the realization became quickly apparent that we were basically saying the same thing, albeit with different words and at a different scale. The point wasn't that everyone in the industry needed to deploy 5,000 – 10,000 servers at a time like Microsoft. The point was that innovation for the next generation of datacenters will be accomplished through standardization and refinement of the supply chain itself. Whether you do it in a grandiose scale like Microsoft or whether you piece together 500kW capacity 'colocation' chunks is really driving toward the same goal – to right-size and deliver as close to true on-demand datacenters as possible. This is the driver – to move toward economies of scale and right-sized, just-in-time builds eliminating as much of the speculative construction as possible. Paper or plastic, it doesn't really matter how we get there, so long as we do.