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## Tony Foster's Blog



# Building Fences and Building Infrastructure

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This summer I constructed a fence in my backyard. This got me thinking, like it often does, about all the range of offerings for the data center from Dell EMC and how they enable choice and flexibility in the data center.

I started my fence project in early July, I didn't think much of it. I had constructed several fences before from chain-link to wooden to barbed-wire. I didn't think this would be that bad of a build. Much like installing new equipment in the data center, all that matters is how fast I can put the components in the rack and spin the screwdriver to tighten them in.

Of course before I started I had to figure out all of my requirements for my new fence and make sure they complied with city code (height and materials requirements). I had to consider how long I wanted the fence to last, the durability and performance of different materials, what sort of privacy I needed, what I was trying to keep in (or out), how it would impact the neighbors, and of course how much it would cost me to build. These considerations are very similar to what goes into datacenter projects. They correlate to questions like, how long is the ROI for the project, what quality of service is required, what level of security is needed, how will this impact other projects (maybe they will benefit from it), and how much will it cost?

Even after the big picture questions were answered there are always logistical challenges (both expected and unexpected) that arise. For example, calling the utility companies to make sure nothing was buried where the fence was going, several trips to the hardware store, rocks buried where I wanted to put my posts, moving all the materials from the front to the back yard, and so much more. It required a lot of work and I'm still busy making it 'perfect.' It's comparable to those never ending data center projects... order the gear, call the networking guys, discover something is incompatible, and repeat till its 'perfect.' Of course all of this is the problem of the person doing the work, me in the case of my fence.



For IT organizations that like to take on all of the challenges and build IT projects themselves, that's great, there is a certain pride that comes with doing it all yourself, even if it requires spending some evenings and weekends away from the family. Dell EMC has the servers, networking, and storage perfect for those DIY projects.

As I was building my fence I needed help removing some trees in the old fence line, it was just too big of a job for me to do alone. I had to call my buddy Casey to help. Many organizations have good buddies too! Often times these are VARs (Value Added Resellers) and organizations view them as trusted advisors. Those trusted advisors are there to help when a project is just too big to tackle on your own. It's sort of like having your very own Casey.

Not only can VARs help get the work done, they can simplify the process by delivering Dell EMC Ready Stacks. Ready Stacks are delivered by Dell EMC partners using Dell EMC components and are based on pre-validated designs. This makes it easier for organizations to achieve a desired outcome, quicker than doing it themselves. This is because Ready Stacks are delivered by a trusted advisor who is skilled at providing converged reference systems for clients. [\[Read more about Ready Stacks at https://www.dell EMC.com/en-us/solutions/ready/readystack.htm\]](https://www.dell EMC.com/en-us/solutions/ready/readystack.htm)

You might be thinking, I could have made my life a lot simpler, had I just purchased pre-made fence panels from a lumber yard. They come prefabricated in various sizes, all you have to do is dig some holes and tighten some screws. Then Poof!!! A fence is constructed! I can scale the size of my fence by using the different sized fence panels. If I need a 16 foot long section of fence that's 6 feet high, I can purchase two 8 foot sections to meet my needs, or maybe a 10 foot and 6 foot section of fencing are a better choice. Either way the fence goes up quickly with minimal effort.

This is very similar to the Dell EMC VxRail Hyper Converged Infrastructure (HCI) offerings. They consist of the components (storage and compute) needed to rapidly deliver resources for virtualized environments in a single unit. With VxRail, storage is delivered by VMware vSAN as part of the hypervisor and integrated into the compute hardware, scaling as a single, hyper-converged node. To grow the storage or compute it is the simple addition of another VxRail. [\[Read more about VxRail at https://www.dell EMC.com/en-us/converged-infrastructure/vxrail/index.htm\]](https://www.dell EMC.com/en-us/converged-infrastructure/vxrail/index.htm)

This makes projects in the data center simple. Buy what you need and add more nodes as you grow. A perfect option when resource consumption scales linearly in the data center, like they do for many.



Processor



RAM



Redundant power & cooling



Network Connectivity (1Gbps/10Gbps)



GPU (V Series)



All-flash or hybrid disk packs



In my case using fencing panels probably would have been a super quick way to build a fence. However I had some uneven ground and needed to change the height of my fence in a couple of spots. That would be tough to do with traditional fence panels (a fixed rectangular size). If I used panels I would have had 3 ways to deal with the unevenness. First I could build the panels myself, which might mean they won't match up with the prefabricated ones, they would be a pain to put together, and they would take some time away from doing something else. Second I could make a fence panel fit even if it didn't quite look right (what's the worst that could happen, the neighbor's dog wandering under the fence for a visit). Or my third option, to purchase tailored panels designed to accommodate uneven ground and changing heights.

Wouldn't it be cool if you could do that in a data center? Something like a preassembled system that let you scale resources independently of one another. That's actually existed for a while now and Dell EMC is the leader in that space, the Converged Infrastructure (CI) space.



Converged infrastructure, like the VxBlock 1000 allows scaling of resources (compute, storage, and networking) independently of each other in a single converged platform. This means a single solution arrives at the data center, it's plugged in, and the environment is ready. As projects grow the VxBlock can grow and scale. If more storage IO is needed it's a simple process to increase the storage IO, yet there is no need to add compute resources if they're not needed. And in the same way compute can grow without increasing the storage. This means independent and efficient scaling of resources.

This independent scaling gives data center administrators options in how they want to grow their environment and consume resources. Your budget can be targeted to where it is most needed in the organization, whether it's CPU, IO throughput, RAM, storage capacity, etc. [Read more about VxBlock 1000 at <http://www.dell EMC.com/en-us/converged-infrastructure/converged-systems.htm>]

Using converged and hyper-converged infrastructure, like Ready Stack (CI), VxBlock (CI), and VxRail (HCI), provides organizations with powerful options for their data centers. All reduce the amount of time spent assembling and testing components while accelerating time to value for organizations. This also means that IT can spend more time innovating and delivering value to the organization instead of keeping the lights on. It's also possible to reduce the number of nights and weekends spent deploying and maintaining infrastructure.

As you can see from my ponderings while building a fence, we, Dell EMC, have a wide array of offerings to help every type of IT environment. From the do it yourself type, to those who want the experience of trusted advisors with Ready Stack, to those who want to quickly scale compute and storage with VxRail, to those who like the ability to independently scale resources with the VxBlock. If you are interested in finding out more about how your organization can reap the benefits of Dell EMC Converged and Hyper-Converged Infrastructure talk with your Dell EMC representative or visit: <http://www.dell EMC.com/en-us/converged-infrastructure/index.htm>

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