Transforming the Approach to IT with a Cloud-First Strategy
by Terry Buchanan

I don't like the word "hyperconvergence," and I think that "hyperconverged infrastructure (HCI)" is a term that misses the point. It is a way to describe how the speeds and feeds of one current data centre technology differs from another or legacy or obsolete equipment. More recently, HCI has been perceived incorrectly as a way to compare the hardware appliance for HCI vendors.

In its simplest terms, hyperconverged infrastructure, or HCI, compresses storage, computing, networking, and virtualization into a single software-defined stack. I believe it is the heart of cloud-first computing, be it on-prem, offsite, or hybrid and it enables cloud-first.

Remember the days of comparing speeds and feeds between PCs, servers, and storage arrays? In technology, we like to compare and find differentiation. Now, we refer to endpoints and appliances for workloads and use cases. They have been commoditized. HCI is now driving commoditization of data centre-centric hardware and even the hypervisor itself. It's already having a profound impact on the footprint of data centres. Instead of talking infrastructure, I'd rather discuss strategy about cloud platforms.

Strategy, Not Infrastructure
Just as I'd prefer to have conversations about strategy instead of infrastructure, the same is true for my clients. Increasingly, they ask me about adopting a cloud-first strategy, but that can mean many different things. I help them explore the available options and assemble a working solution and a plan to get there.

Going cloud-first often requires transforming their approach to IT, and that's where our company comes in. [Zycom Technology Inc](#) has been helping clients transform the way they consume and manage information technology for 22 years.

Our current focus is on data centre, workforce, and security transformation, but we started as a reseller of leading server and workstation hardware. Over the years, we changed our business model in response to the changing IT landscape, becoming a break/fix tech support shop, a value-added reseller (VAR), and a systems integrator at various points in our history.

Today, as a full-service solution provider, we deliver cloud-ready platforms, cloud services, IaaS, BaaS, DRaaS, and SaaS, and managed services, to the Canadian government, the Department of National Defense, SMBs, mid-market to enterprises, across multiple verticals. We are still offering traditional hardware sales, too.

An Industry in Upheaval
I came to Zycom nine years ago. The IT industry was in the midst of an upheaval, and the growing adoption of software-defined storage was about to throw us for a loop. This new technology was the way forward, but it was a disruptive proposition for us. We had to disrupt our own business model to embrace innovation.

Sometimes you have to disrupt your own #business to embrace innovation. #NutanixStories

Traditional IT infrastructure yielded a typical 20% product pull of services. So typically, for every $150,000 of hardware and software sold, we were earning an additional $30,000 in professional and managed contracts. With the increasing popularity of software-defined architecture, this figure dropped to $5,000–$9,000 per $150,000. Project personnel utilization was faced with a new shift. Zycom prepared to deliver more value with less effort.

This revenue reduction and new reality forced us to rethink our approach to service delivery. To move in this new direction, we reconsidered our human capital. In addition to our technology service personnel focused on traditional IT, we started recruiting specialists who understood VDI, hypervisors, cloud services, and the complexities of IaaS and SaaS platforms. By centralizing tools to manage and deploy virtualized and hyperconverged infrastructure, we began rolling out solutions at scale with fewer delivery resources (on our bench), versus more staff to configure individual servers and SANs by hand. Less did indeed become more. More economic value for our clients, new reasons to work with Zycom, and a new growth stream for our company.

Overcoming Latency: Switching from Blades to Nutanix
In 2013, we were designing Tier III infrastructure for VDI powered by the popular brokers Citrix XenDesktop and VMware Horizon. But Tier III introduced latency and increased SSD requirements, thus defeating the economy of using virtual desktops. The problem wasn't virtualization—it was the infrastructure. We were using blade servers connected to a discrete SAN, and the I/O wasn't there for ourselves or our clients.

Now, the best way to eliminate latency is to localize storage and compute to the workload, and that's where Nutanix and Zycom started our journey together which led to Zycom's first sale. But in 2013, the technology was still cutting edge. Some vendors offered excellent hardware but substandard software. We needed a platform that supported multiple hypervisors for easy configuration and maintenance of VDIs. We were also looking for robust management features that allowed us to optimize storage.

We found everything we needed in Nutanix and made the switch from blades to a fully hyperconverged data centre. The difference in space alone was massive. Both us and our first Nutanix client went from a cabinet of servers and SANs in 2013 to 4 rack units of Nutanix nodes

and top of rack networking combined that housed virtual desktops.

The killer feature was Shadow Clones, which allows the distributed caching of virtual discs across Nutanix nodes. Shadow Clones reduced latency by 72% over traditional Tier III VDI architecture and eliminated our biggest bottleneck in VDI design and performance. We then ported a handful of SQL databases to Nutanix and throughput shot through the roof. This was the I/O acceleration our customers were craving.

Shadow Clones are read-only copies of the storage volumes attached to VDI golden images. They are mirrored on local SSDs so that linked-clones on other nodes don't have to access the network to retrieve data. This arrangement eliminates latency. The entire process is automated, and we no longer have to spend time setting up local clones or optimizing network traffic. We solved two problems with this one feature, and that sealed the deal for us.

Using Nutanix Internally and Externally
Moving our internal data centre to Nutanix wasn't part of our original plan. We'd initially purchased demo gear from the company: not-for-resale equipment meant for customer proofs of concept. We weren't thinking of upgrading the blades at our internal production environment, but when we saw the gains our clients were making, we decided to migrate our internal infrastructure over to Nutanix, too.

Eliminating latency wasn't the only benefit of Nutanix. Its ease of use and speed of deployment were astounding. I taught myself to use Nutanix Prism in less than two hours without having to take a course, and now I no longer have to send out engineers for a week of training. They don't even have to know VMware to see virtual machine and cluster health or know how to upgrade the VMware hypervisor. Nutanix one-click upgrades take care of that, so my help desk and operations team don't. They can use Prism to provide managed customer support for 33% less than Tier III environments. My people can go from unboxing to deploying a fully operational Nutanix cluster in no time.

We have deployed 16 nodes from out of the box, into the rack, configured with hypervisor in less than two hours, and this included kicking off migration of VMs from the previous infrastructure. For one customer, we deployed dozens of nodes in a day and then spent the weekend migrating about 500 of their VMs workloads. The speed!

Nutanix also greatly accelerates and facilitates backups and disaster recovery. Recently, we performed a planned fail-over—to facilitate a data centre migration—of a 30+ terabyte Nutanix environment over a standard 1-gigabit internet connection to our data centre 360 kilometres away. The whole process took less than eight minutes. There was barely a blip in service, and everything was back up and running in production in the blink of an eye. And with the click of a mouse reversed the VM synchronization in the opposite direction for DR.

Diversifying Our Customer Base with Nutanix

When we started using Nutanix internally and offering it to our customers, we didn't have a roadmap. It was an enterprise solution. Conventional wisdom suggested that only our biggest corporate clients were interested, but we were wrong. Our first deployment was a mid-size health unit, and our second was a nonprofit organization. Then we built Nutanix solutions for the insurance, manufacturing, federal verticals and beyond.

> **Conventional wisdom suggested that only the biggest corporate clients would be interested in #hyperconvergence, but that isn't the case at all. #NutanixStories**

We didn't expect some of these early sales. While the long-term savings of Nutanix are substantial, the initial investment was perceived to be steep. Nutanix was also a new product. There was no word of mouth and only a few case studies, and so every potential client asked for a proof of concept. These days, we only do a handful of PoCs every year because most of our customers already know about it.

Taking Nutanix Further

Zycom is one of Nutanix's leading partners in Canada and certified Master, their highest tier. Zycom has won national awards for projects utilizing Nutanix and we have been recognized with Nutanix Partner of the Year Honors five times. Right now, Nutanix represents nearly 30% of our business. We have deployed over 1,130 nodes across North America and have worked directly or indirectly with nearly a quarter of Nutanix's 600+ unique customers in this country from a service delivery perspective.

We have expanded our certified professional services capabilities to include essential and enterprise Nutanix software including Calm, Files, Flow, and Frame. Over the past seven years, we have developed expert professional services capability around HCI and launched our own Managed HCI Service two years ago.

Nearly 34% of our on-prem Nutanix clients are running the Acropolis Hypervisor (AHV), and we are using it internally to run our IaaS platform. Interestingly enough, we avoided IaaS offerings in the past due to concerns over the operating costs associated with hydro, cooling, management, and collocation costs. Nutanix enabled our IaaS offering by reducing all of those concerns. We started offering cloud-based backup-as-a-service with AHV integration 1.5 years ago using Veeam Cloud Connect and are planning for Nutanix Mine in conjunction with Veeam to augment the service.

Next, we hope to roll out Nutanix Xi Frame's desktop-as-a-service platform. I'm very excited about giving our customers the chance to run server-class VDIs on any device equipped with a browser. The flexibility of running virtual desktops in the public cloud and on-premise with AHV with the same VDI broker gives clients maximum freedom. Nutanix Xi Frame allows you to

remotely run processor-intensive software like SPSS on a Chromebook. Talk about leveling the playing field.

Data Will Fuel Adoption
Of course, the entire world is on hold right now, and everyone is discovering cloud-based and off-prem solutions. It's not like companies have a choice—the workplace, as we know it, is in a state of flux. Nobody knows when or how they'll be going back to work, or what their work might resemble when they do return. Is back to work a place or a product of effort?

Companies that would never have tried anything but traditional storage solutions are now experiencing the public cloud. I see this as a "try-before-you-buy" situation that may lead to a new status quo. Humans are resilient and resourceful. We always find ways to adapt, and I believe we'll carry forward the lessons we're learning now to create better workplaces.

I also believe in the law of diffusion of innovation. When it comes to enterprise cloud platforms like Nutanix, you have the innovators—like Zycom—and you have the early adopters. Right now, at least in Canada, we're starting to move through the early majority side of the curve, which represents approximately 34% of the addressable market consuming hyperconverged architecture.

That adoption rate will continue to rise, especially in the IaaS segment of the HCI market. But this trend won't be driven by hyperconvergence itself. It will be driven by data.

There's a lot of distance left on the innovation highway. Are you buckled in? #NutanixStories

In 2020, data is king. AI, machine learning, and autonomous response are transforming the way we do business (consume technology) and the way we view the world. There is almost too much information out there, and whether we're governments, multinationals, SMBs, enterprises, or solopreneurs, we all have to find a way to filter through the data in order to thrive. I see the Nutanix platform and its extensibility as a way to sort through the clutter.

The Power of Potential
Our clients no longer have the luxury of buying this year's hardware and hoping it will suffice until it reaches the end of its life cycle. They can't design a physical data centre with limited space and fixed OpEx for unplanned new hard drives and servers as a result of growth.

Nutanix and Zycom can help them overcome the limitations of traditional IT infrastructure, but adopting hyperconvergence isn't the endgame. It's only the beginning, and it doesn't matter whether it's on-prem, IaaS, or resides in a hybrid cloud—it always resides somewhere.

I'm optimistic about the future of IT and the innovation that's yet to come in terms of why we as technologists are here. That being said, I don't take anything for granted. Change is constant, and we're nimble enough as an organization that we can transform our approach to where the industry's going... to adapt IT consumption of cloud platforms and how IT is managed.