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Escaping the Legacy Infrastructure Quagmire

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Digital technologies offer companies a myriad of ways to simplify both internal and customer-facing processes.

Unfortunately, a key challenge facing many established companies are the legacy technologies that hinder their ability to respond quickly to customer or market shifts. By comparison, a recent study (<https://www.capgemini.com/2018/07/legacy-to-digital-made-simple-by-paas/>) of 415 global organizations that are at various stages of applying automation to their IT operations conducted by Capgemini reveals that 75% of organizations have seen boosts to their revenues and profitability through automation while 59% say that automation has enabled engineers and IT staff to work on higher-value activities.

HMG Strategy recently spoke with **Wendy M. Pfeiffer**, CIO at Nutanix, for her perspective on the epic struggles most IT teams are facing in managing legacy IT infrastructure and how this can be avoided.

Wendy M. Pfeiffer: Many CIOs are still engaged in the urban warfare that is traditional IT, with epic struggles just to make applications and services available occurring, on a daily basis, around the world.



Quite frankly, it has been frustrating to be a CIO over the past decade. There's pressure for us to be ever more efficient in running our infrastructure, but this efficiency has not been enabled by vendors. Whether it's at the server level, storage, network, or app level, technologies don't interoperate well and vendors believe they can create best-of-breed solutions rather than focusing on providing IT with the tools we need to integrate. Because every company's business and growth trajectory are unique, IT leaders don't have the luxury of consuming just one platform or working in just one cloud. We require technology tools from multiple vendors to deliver the solutions the enterprise needs.

In fact, IT ends up spending an inordinate amount of time doing 'Keep the Lights On' activities. I speak to hundreds of CIOs in my role at Nutanix. This need for maintenance windows and upgrades has made it common for many companies to do their infrastructure maintenance upgrades over the Thanksgiving 'break' each year. Spending Thanksgiving at the data center: it's actually a "thing"!

One of the reasons Nutanix exists is to leapfrog past these requirements. One way to get past that legacy challenge is to go to the public cloud for infrastructure and scalability. But that's expensive and we can't run all of our on-premise workloads there. Meanwhile, many business departments conduct shadow IT and work with vendors that offer development services. All of those activities continue to add overhead to enterprise IT. The vendors that sell to enterprise IT are selling us last century's technology. The bottom line is that enterprise IT never digs out of that hole.

I submit that enterprise IT in its present form will cease to exist. We're in that last 'Happy Valley' swampland with the rest of the dinosaurs like record stores and muscle cars. Compared to the SaaS vendors and startups, IT is big and slow and not responsive. Unless we adapt we're not going to survive.

IT departments need to get out of the trap of maintaining and caring about infrastructure from legacy vendors. We need a single operating system that runs our servers, storage and network on any hardware and in any cloud, and that OS needs to effectively run any workload. That buys us unprecedented freedom to create, to make mistakes, to scale and to innovate. Sounds like a simple request, but, until recently, this has only been a dream for IT.

I guess you could say I'm living the dream! I have thousands of servers in our data centers running Dell, Cisco, IBM, as well as Nutanix hardware. I've got a team of four people managing those things globally. The reason they're able to run this large estate is that everything runs on the Nutanix OS. So, if there's an issue like the Spectre virus, I can make use of this OS to identify and patch all affected systems with a single click. That's a dramatic time saver compared to the stories I've heard from colleagues about their multi-weekend efforts to deal with Spectre.

The fact that I'm not locked into any vendor's hardware is also unprecedented. If a hardware vendor starts charging me the "standards tax", I can simply choose another vendor. At a minimum, the CIO of the future needs that kind of facility, something that

transcends the mess that's been created by the infrastructure vendors. And, once we have that OS running on any hardware or cloud, requiring minimal expertise, we can focus on the things that make IT more relevant into the future.

Now, I realize that I've got an advantage in my role. I'm in this delightful state where I don't have to convince a board that we need to run Nutanix OS. In fact, although I was tracking all of our infrastructure metrics, it was all so boring - everything was always 100%! Frankly, I felt like I was the dinosaur reporting on the old metrics.

Embracing the Consumerization of IT

A passion of mine is consumer technology (I probably have the brain of a 14-year-old boy). I'm constantly playing games and using mobile devices. Think about Pokémon GO. I downloaded it onto my mobile device and the interaction design of the game was immediately understandable and engaging. It's very easy for children and older users. The interaction design was so elegant and sensitive to my interactions. Not only did I understand how to play, but I played obsessively, like millions of other people.

Consider an enterprise app such as a videoconferencing system and the hoops we go through to deploy it and train people on it. How is the audio working? Do I need to plug in an HDMI cable? That whole process is terrible, yet I spend millions of dollars outfitting our enterprise conference rooms. But my Google Home device or my Amazon Echo Dot does a much better job of providing me with a superior A/V experience. Why do enterprise vendors keep providing us with this crap and why do we keep paying for it when such elegant consumer technology is available?

Getting it Right the First Time

At Nutanix, we've decided we're in a position where we have the time to design it right. We focus on two metrics in IT -- First Time Right (FTR) and Net Promoter Score (NPS). We measure all of our interactions with our users and we use the scoring from those measurements to prioritize processes and interactions that need to be worked on. FTR - with each major activity you're going to do, making sure you get it right the first time for all users.

We started measuring our FTR with software download requests and discovered we were only getting the requests right the first time on 8% of the requests. We use ServiceNow as the tool to organize our work and deal with requests. People would have to log into ServiceNow, enter a ticket and then we'd need to check our license grants, plus get permission from their managers and make it available for them to download and make clear when it arrived. We were only meeting their expectations 8% of the time. That's terrible, and our NPS scores were terrible, too. We looked at modern technologies to address those needs.

For software downloads, we found a vendor still in stealth mode who had machine learning tools to automate all of those back-end interactions so that if a user in Slack needs DocuSign, the machine learning kicks in and takes care of all of the back-end

processes, creates the tickets and other processes and signoffs. This all takes place in 10- to-30 seconds. Our FTR for users requesting downloads from IT went from 8% to 100%, meaning we now get it right 100% the first time. Our NPS score is now in the mid-90s for software downloads. Those are unheard-of scores for IT.

We're now working on a function using Nutanix Calm to meet 56% of all of our requests from our engineering team using machine learning-enabled self-service. This will be a game-changer in terms of our productivity and the productivity of our engineering team. I'm well aware that I am privileged: these are the types of things that other IT departments would love to be able to do if they could just keep the lights on!

With a couple of years of solid infrastructure and application performance under our belts, we're now tackling those areas where our FTR and NPS scores are low. If we discover we have to train users on a complex workflow, then we know that means we're not doing it right.

When you start removing that frustration and the burden of legacy infrastructure, when you have an OS that runs anywhere, and when you begin to measure much more relevant KPIs like FTR and NPS, things begin to fall into place. They say when you have a hammer everything looks like a nail. So, for IT, finding technologies that allow us to do all the things we need is a natural for us. Yes, we're still using some legacy tech, but we've integrated these newer technologies into the mix, to make them easier and more performant.

Employees tell us they love the IT people at Nutanix - we're ridiculously responsive and we're engaged in the business. As a result, I'm blessed to be having the best time of my career right now. And I believe that this is a model that's very relevant for CIOs and CDOs trying to support mid and large-cap companies and enable them to thrive. To move from traditional IT, to survive and thrive in the new world, we just need that first leg up. The ability to automate IT infrastructure and enhance the user experience is finally here for us!

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