

WHAT CIOs NEED TO KNOW TO CAPITALIZE ON THE **SOFTWARE-DEFINED DATA CENTER**



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A CONVERSATION WITH PAT GELSINGER

The software-defined data center (SDDC) combines exceptional performance with unprecedented flexibility, enabling IT assets and IT organizations to operate and change at the speed of business.

To explore the business opportunities and technological capabilities of SDDC, we sat down with Pat Gelsinger, CEO of VMware. Pat has been a technology industry leader and innovator for more than three decades. Before taking the helm at VMware in 2012, he served as Intel's first Chief Technology Officer and then was President of EMC's Information Infrastructure Products business. VMware is recognized as a leader in the areas of enterprise mobility, hybrid cloud services, and — underlying it all — the software-defined data center.

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For starters, what are the business goals for IT infrastructure today?

Gelsinger: I think Mark Zuckerberg captured it nicely when he described Facebook's operating philosophy as “Move fast with a stable infrastructure.” What he's spotlighting there is the tight relationship today between rapid business innovation — in particular the apps that drive value — and the foundational IT that makes it all “go.”

The “stable” part includes the traditional performance objectives of availability, reliability, security, and cost-effectiveness. Those remain essential, but businesses today need much more. They need the flexibility to incorporate new technologies, new data sources, and new external services. They need to leverage so-called “3rd platform” capabilities like mobile apps, and often to marry those apps with legacy databases and systems. Above all, they need to move with speed.

No matter which industry you're competing in, things are just moving at a much faster pace with less predictability than ever before. We refer to this as “liquid business” — an environment that's dynamic and fluid,

where old, rigid structures are melting away. To thrive in this shape-shifting world, IT has to be nimble so the enterprise can move quickly and capitalize as opportunities arise.

Having an agile, leading-edge IT environment is a powerful thing, but I would argue that for too long those capabilities have been limited to a select few — web-based businesses like the Facebooks of the world and sectors like financial services. Part of the strategy behind SDDC is to democratize the power of fast and flexible IT, so that mainstream companies can get access to those same advantages.

Please describe the software-defined data center.

PG: First of all, the entire data center is virtualized. Not just servers, where many companies have made a lot of progress, but the other two traditional “stacks” of storage and networking as well. Virtualization frees workloads from connection with specific hardware and frees the hardware to be put to different and multiple uses.

That leads to distinctive benefits including more availability, higher utilization, lower cost, unlimited scalability, greater speed in developing applications and provisioning technology services, and the agility to reconfigure and repurpose infrastructure as the business needs.

But the essence of SDDC is *automation*. The software layer replaces management with automation to further increase operational simplicity. Things happen fast and changes are made with a minimum of human intervention. This very high degree of automation is the only way that infrastructure can keep pace with the many and various and changing demands put upon it by the business. And it's the only way IT can provision its offerings as business services.

How do you summarize the differences between a software-defined data center and a traditional data center?

PG: The SDDC approach enables IT teams to transcend the rigid constraints of the old hardware-centric model. This applies to every aspect of your IT environment, from networking to storage to compute to the management platform that ties it all together. With the SDDC approach, you increase the business value of your existing IT assets by seeing them and managing them via software, which is inherently faster and more flexible than hardware.

“THE ESSENCE OF SDDC IS AUTOMATION. THE SOFTWARE LAYER REPLACES MANAGEMENT WITH AUTOMATION TO FURTHER INCREASE OPERATIONAL SIMPLICITY.”



With a true SDDC, there is liberation in your infrastructure design, as it provides options for multiple hardware scenarios. SDDC protects investment in legacy hardware, which doesn't need to be refreshed, just virtualized. It enables all apps, including the most mission-critical, to take advantage of the efficiencies and flexibility of SDDC. And it provides the freedom of choice to incorporate the latest and most advanced hardware technologies as you see fit.

What's the relationship between the SDDC and hybrid cloud?

PG: SDDC is the architectural foundation for the hybrid cloud model, which enables you to provision and run your apps seamlessly in your on-premises private cloud, a secure public cloud service like our vCloud Air service, or a combination of the two.

One thing we've heard loud and clear from IT teams: They want to extend their capabilities out to the public cloud but they want to do it using the same set of tools they're familiar with, and they want the same security protocols and the same network. The SDDC architecture provides exactly that — it's the bridge between your on-prem and off-prem assets.

Let there be no confusion on this point: The hybrid cloud model is not a way station; it's the world we're going to be living in for decades to come. Just look at the numbers: Industry analysts predict that in 2020 over 75% of IT spend will still be based on the private cloud. So over the long term, businesses need an industrial-grade hybrid solution for utilizing a very fluid pool of inside and outside resources. With no trade-offs and no sacrifices. The combination of SDDC and hybrid cloud enables IT teams to navigate and thrive in a hybrid world.

How does the SDDC approach change the relationship between IT and the business?

PG: When you're stuck in the old model of IT, end users have to submit a request to IT and then wait for a solution, which often takes weeks or months. With the SDDC approach, users get instant access to the apps and services they want, and it's all done via a few mouse clicks in a self-service portal. That's the essence of IT-as-a-Service (ITaaS), and it really marks a fundamental shift — from IT operating in reactive mode

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to IT serving as a strategic partner, innovation partner, and continuous enabler to the business.

If you're a CIO, you have an opportunity now to take the skills and capabilities of your IT team and deliver all of that on-demand, in the form of easy-to-consume business services. And it enables you to shift resources to applications and services that create real business value. The ITaaS model is the future of IT, and the SDDC architecture is a proven path to get there.

What's the best way to adopt the SDDC architecture and get the value?

PG: Frankly, until recently it's been too difficult to adopt the SDDC approach. It was clear we needed to shorten the time to value and reduce the complexity and heavy lifting involved. We've taken a huge step forward with a set of offerings that combine compute, networking, and storage resources into converged infrastructure implemented as software appliance or hardware unit.

The end result is simple and easy to deploy. With the “hyper-converged” appliance, you can get from “power on” to a live virtual machine in minutes. Simply put, we provide the fastest path to the SDDC.

That's really the spirit behind the work we're doing with EMC and Pivotal around what we call the “Enterprise Hybrid Cloud Federation SDDC Edition.” We're providing customers with an engineered solution built on an SDDC foundation and tested, validated, implemented, and supported by the Federation partners. We can deploy that into a customer's data center for mission-critical applications in as little as 28 days.

To wrap up, what are the key things that CIOs should know and do about SDDC?

PG: Three things I would leave you with:

First, SDDC is simply the best data center architecture available for IT organizations that are looking to propel themselves forward. If you're looking to accelerate app delivery and, more broadly, serve as a strategic partner to the business, then SDDC is the path to get there.

Second, I encourage you to think of SDDC as a core part of your overall cloud strategy. The SDDC is designed from the ground up to serve as an industrial-grade bridge between your past and your future, between your on-prem and off-prem assets — and there's enormous value and power in that hybrid model of IT.

And third, we have the solutions in place now so you can shorten time to value and adopt the SDDC architecture much more rapidly than ever before.

Implementing SDDC is ultimately an investment in business agility and business innovation. For the CIOs we work with, the SDDC is about taking their business contribution to a new level.



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