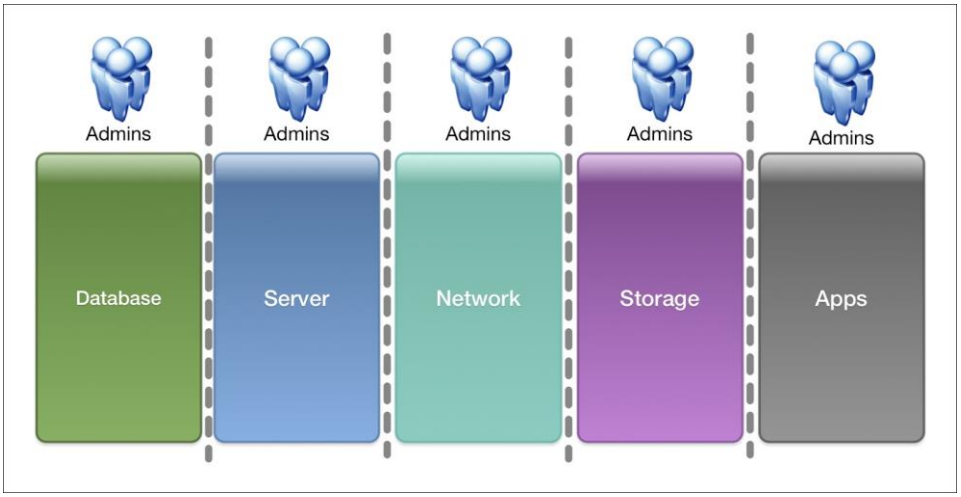
Why Modern Businesses Need a Software Defined Data Center

This extract has been taken from Building VMware Software Defined Data Centers by Valentin Hamburger, available from publisher, Packt, the perfect place to build your library of tech resources for 2017.

Organizations face many technological challenges if they are to stay relevant. The introduction and growth of smartphones and tablets, for example, has transformed the way in which software is delivered to and used by end users. The browser no longer rules our online experiences - instead, it is through applications that we access services, information and entertainment.

This has not only changed the lives of consumers, but also the way in which engineers and developers build software - speed and agility is of the essence, all the while data 'heavier' and more and more intensive.

Obviously, a classic data center structure isn't ideal for quick and seamless service delivery. These architectures have usually been created by projects to serve a particular use case for a couple of years - often for longer. These were designed with an assumption about their growth and use. Special project teams have set them up across the data center pillars, as shown in the following figure. Typically, those project teams separate after such the application environment has been completed.



All these pillars in the data center need to work together… but not too much. They also need to know when to mind their own business. Often, each respective division will have their own processes which might later integrate into the wider data center process.

There was a good reason to structure a data center in this way: the simple fact that nobody can be an expert in every discipline. Companies started to create groups to operate certain areas in a data center, each building their own expertise for their own subject. They were really siloes that helped maintain control over a large infrastructure. And for decades it has served the IT world well.

However, this setup has one flaw. It was never designed for massive change and scale - two words that have come to define modern IT. The bigger these divisions get, the slower they are able to react to request from other groups in the data center. This introduces a bi-directional issue, since all groups may grow at a similar rate, the overall service delivery time might also increase exponentially.

This also introduces a cost factor when it comes to service deployments across these pillars. Every new service an organization might want to introduce or develop requires every area of IT to contribute. Traditionally, this is done by human handovers from one department to the other. Every one of these handovers will delay the overall product time or service delivery time (or ‘time to market’).

With a Software Defined Data Center, businesses can avoid these problems. It allows you to improve the way you develop and deliver software. Fundamentally, it will keep you agile.

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