Red Herring: Hardware versus Services

Lori MacVittie, 2011-30-11

In a service-focused, platform-based infrastructure offering, the form factor is irrelevant.

One of the most difficult aspects of cloud, virtualization, and the rise of platform-oriented data centers is the separation of services from their implementation. This is SOA applied to infrastructure, and it is for some reason a foreign concept to most operational IT folks – with the sometimes exception of developers. But sometimes even developers are challenged by the notion, especially when it begins to include network hardware.

ARE YOU SERIOUSLY?

The headline read: **WAN Optimization Hardware versus WAN Optimization Services**. I read no further, because I was struck by the wrongness of the declaration in the first place. I'm certain if I had read the entire piece I would have found it focused on the operational and financial benefits of leveraging WAN optimization as a Service as opposed to deploying hardware (or software a la virtual network appliances) in multiple locations. And while I've got a few things to say about ***that,*** too, today is not the day for that debate. Today is for focusing on the core premise of the headline: that hardware and services are somehow at odds. Today is for exposing the fallacy of a premise that is part of the larger transformational challenge with which IT organizations are faced as they journey toward IT as a Service and a dynamic data center.

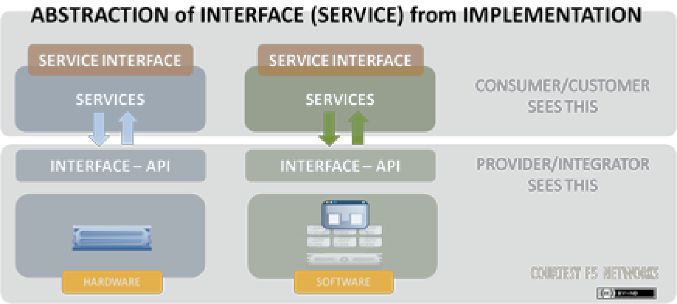
This transformational challenge, often made reference to by cloud and virtualization experts, is one that requires a change in thinking as well as culture. It requires a shift from thinking of solutions as boxes with plugs and ports and viewing them as services with interfaces and APIs. It does not matter one whit whether those services are implemented using hardware or software (or perhaps even a combination of the two, a la a hybrid infrastructure model). What does matter is the interface, the API, the ***accessibility*** as Google's Steve Yegge emphatically put it in his recent from-the-gut-not-meant-to-be-public rant. What matters is that a product is also a platform, because as Yegge so insightfully noted:

> A product is useless without a platform, or more precisely and accurately, a platform-less product will always be replaced by an equivalent platform-ized product.

A platform is accessible, it has APIs and interfaces via which developers (consumer, partner, customer) can access the functions and features of the product (services) to integrate, instruct, and automate in a more agile, dynamic architecture.

Which brings us back to the red herring known generally as "hardware versus services."

HARDWARE is FORM-FACTOR. SERVICE is INTERFACE.



This misstatement implies that hardware is incapable of delivering services. This is simply not true, any more than a statement implying software is capable of delivering services would be true. That's because intrinsically *nothing* is actually a service – unless it is enabled to do so. Unless it is, as today's vernacular is wont to say, a platform.

Delivering X as a service can be achieved via hardware as well as software. One need only look at the varied offerings of load balancing services by cloud providers to understand that both hardware and software can be service-enabled with equal alacrity, if not unequal results in features and functionality. As long as the underlying ***platform*** provides the means by which services and their requisite interfaces can be created, the distinction between hardware and "services" is non-existent.

The definition of “service” does not include nor preclude the use of hardware as the underlying implementation. Indeed, the value of a “service” is that it provides a consistent interface that abstracts (and therefore insulates) the service consumer from the underlying implementation. A true “service” ensures minimal disruption as well as continued compatibility in the face of upgrade/enhancement cycles. It provides flexibility and decreases the risk of lock-in to any given solution, because the implementation can be completely changed without requiring significant changes to the interface.

This is the transformational challenge that IT faces: to stop thinking of solutions in terms of deployment form-factors and instead start looking at them with an eye toward the services they provide. Because ultimately IT needs to offer them “as a service” (which is a delivery and deployment model, not a form factor) to achieve the push-button IT envisioned by the term “IT as a Service.”

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