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On-premises servers are dead; long live on-premises servers

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By Christian Perry, Liam Rogers

Increasing cloud adoption has spawned proclamations that on-premises infrastructure is dead or close to it. However, not only are a third of organizations planning to increase their x86 server footprint in the coming year, the ones doing it are deep into digital transformation strategies.

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Nearly a third of organizations anticipate an increase in their x86 server deployments in the coming year, despite growing alternatives to traditional, stand-alone x86-based servers such as HCI and composable infrastructure. Rather than taking a back seat in cloud-centric strategies, traditional x86 servers will be increasingly central to flexible hybrid computing systems where varied compute infrastructure is leveraged as needed to power the workloads as necessary for a complete workload ecosystem.

451 TAKE

Commodified x86 servers are a norm in today's enterprise environments, but their presence is not diminishing in the face of increased public cloud adoption and the rise of alternative compute infrastructure such as hyperconverged and composable. They remain as strategic as ever as organizations steamroll into the hybrid cloud age, aided by higher utilization levels via efficient virtualization and the ability to optimize performance with hardware accelerators. Moving forward, stand-alone x86 servers will form the bedrock of an intricate latticework of compute infrastructure in which workloads are automatically assigned to compute and storage technologies depending on requirement. These software-defined environments will require planning to ensure efficiency and invisibility on the customer side, but production benefits will likely far outweigh investment and effort.

x86-based servers assume a strategic role

Within the compute infrastructure realm, early adopters tend to gravitate toward disruptive, innovative technologies such as hyperconverged and composable infrastructure. These same organizations tend to be deeply involved in execution of cloud and digital transformation strategies. Although these trends might seem to point to a logical shift away from traditional IT infrastructure, the inverse is occurring. Across all organizations surveyed for 451 Research's recent Voice of the Enterprise: Servers and Converged Infrastructure, Vendor Evaluations 2018 report, 30% expect to increase the number of installed x86 servers in their environment in the next 12 months, while another 41% expect no change. A casual bystander might assume those 30% increasing their servers are technology laggards that are mired in legacy, manual-laden environments that bear little resemblance to modern, cloud-like datacenters of innovative competitors.

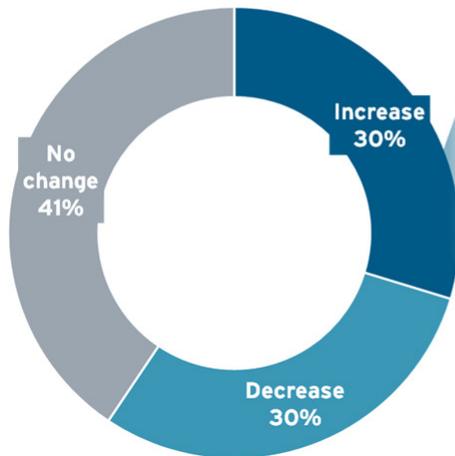
However, the inverse is true, where early adopters of new technology, as well as those who are pragmatic but act sooner rather than later, are significantly more likely than new technology skeptics to increase x86 servers in the next 12 months (see Figure below). Further evidence appears within large organizations (with at least 10,000 employees) that are similarly more likely to increase the number of installed x86 servers than are organizations of smaller sizes.

Early Technology Adopter Plans to Increase x86 Servers

Source: 451 Research's Voice of the Enterprise: Servers and Converged Infrastructure, Vendor Evaluations 2018

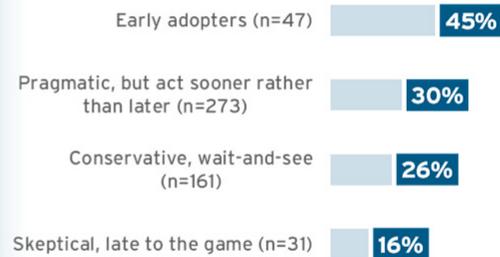
EXPECTED INCREASE IN INSTALLED X86 SERVERS OVER NEXT 12 MONTHS

% of respondents currently using x86 servers (n=576)



WILL INCREASE X86 SERVERS INSTALLED IN NEXT 12 MONTHS BY TECH ADOPTION APPROACH

% of respondents



Traditional stand-alone servers will continue to serve as the compute bedrock for most on-premises environments for the foreseeable future, particularly as deploying hybrid clouds grows easier with each passing year – and container adoption will further ease this process. Considering that 71% of respondents do not expect a decrease in the number of installed x86 servers, server utilization (via rising virtualization levels) may be nearing its limits in many organizations, in turn prompting them to purchase new servers.

Entering the software-defined age

Naturally, x86 servers never disappeared. However, despite the continued commodification of the hardware, they appear to have grown in strategic importance to the point where innovative organizations will continue to invest in them despite the rising number of options available in the expanding public cloud service market.

The theory that stand-alone infrastructure will diminish or even disappear in favor of hyperconverged and composable infrastructure has its merits, but a more realistic picture paints the stand-alone x86 server into a broad compute landscape that includes a bevy of other compute infrastructure types. This is not due to blind loyalty to legacy infrastructure or extensive comfort with the technology, but rather to the evolution of x86 servers themselves. Server manufacturers have invested heavily to pull x86 server platforms into heavily orchestrated, automated environments that mimic and mesh with public cloud platforms. Further, workload agility is at a peak on x86 server platforms as VM and container use spikes and the use of value-added technologies such as hardware accelerators provides the ability to specialize and optimize the hardware to a discrete workload level.

In turn, the opportunity for server manufacturers has been strong and will continue, but pressure among organizations to move workloads off-premises will only increase as business leaders perceive cost savings elsewhere. Seizing the opportunity to the fullest extent requires customer engagement that places x86 servers – and hyperconverged, composable, and other options – into a broad compute ecosystem that delivers optimal performance and efficiency for every on-premises workload. Success will depend on the full slate of vendor teams, including R&D, strategy, engineering, marketing, sales and support, to ensure the ecosystem builds fit seamlessly into a future-proof hybrid cloud environment.