Worldwide Software-Defined Infrastructure Software Revenues Surpassed $12 Billion in 2020, According to IDC

NEEDHAM, Mass., June 9, 2021 – According to the International Data Corporation (IDC) Worldwide Semiannual Software-Defined Infrastructure Tracker, the worldwide software-defined infrastructure (SDI) software market reached $12.17 billion during calendar year 2020, an increase of 5% over the previous year. While this growth was lower than historical trends, the market grew faster than other core technologies during the difficult, pandemic-stricken year. The three technology pillars that make up the SDI market are: software-defined compute software (53% of market value), software-defined storage controller software (36% of market value), and software-defined networking software (11% of market value).

"Software-defined infrastructure solutions have long been popular for companies looking to eliminate cost, complexity, and risk within their data centers," said Eric Sheppard, research vice president with IDC's Infrastructure Platforms and Technologies Group. "And while this technology has been available for many years, recent technology advancements are driving new features and capabilities that align today's software-defined infrastructure solutions with contemporary datacenter challenges better than any other time in the past. Indeed, software-defined infrastructure is rapidly becoming the platform of choice for datacenter modernization and transformation undertakings all around the world."

"Software-defined compute technology has grown to be the standard in the datacenter with server virtualization. However, the market continues to evolve, and recent modernization initiatives have shifted the growth in the market to cloud system software and in particular, containers," said Gary Chen, research director, Software-Defined Compute.
Software-defined infrastructure (SDI) refers to logically pooled resources of compute, memory, storage, and networking, which are managed by software with minimal human intervention. SDI systems are independent of the underlying hardware, as long as the hardware meets certain technical specifications. The underlying hardware in SDI systems are industry-standard, commercial off-the shelf (COTS) products that have enterprise-grade certifications. While a complete SDI solution will include software and hardware, this IDC SDI market sizing focuses only on the value of the software. The SDI software market can be segmented into three core sub-markets: software-defined compute, software-defined networking, and software-defined storage. Abbreviated definitions for each of these sub-markets follow.

Software-defined compute (SDC) software virtualizes groups of physical compute nodes into a single logical compute resource. This abstraction of physical resources allows computations to occur in any COTS hardware that is a part of the logical pool of resources. SDC is implemented at various layers of the software stack and can be used in public/private clouds and virtualized environments. SDC
Software — which includes both open source and commercial software — is often bundled with other infrastructure software, management software, and application platforms. SDC software can be broadly categorized into three areas: virtual machine software (i.e., hypervisor software), container infrastructure software, and cloud system software.

Software-defined storage controller software represents a complete storage software stack that delivers a full suite of storage services in conjunction with COTS hardware to create a complete storage system. For any solution to be included within the software-defined storage controller software functional market, it needs to be extensible and autonomous and allow data access via known and/or published interfaces (APIs or standard file, block, or object interfaces). The solution is a standalone system or an autonomous system. In other words, it provides all essential northbound storage services and handles all southbound data persistence functions without requiring additional hardware or software. SDS solutions should offer a full suite of data access interfaces, storage, and data management services. Software-defined storage solutions may be delivered in multiple forms such as appliances, software, and subscription-based
offerings. Software-defined storage solutions include discrete storage systems (i.e., external storage) designed to provide only storage-specific services or as converged solutions that combine all compute and storage services into a single, scale-out solution (i.e., hyperconverged infrastructure).

Network virtualization and SDN controller software is made up of network virtualization overlays and SDN controllers used in datacenter networks. Both overlays and controllers bring alternate SDN architectures to the network, supporting multiple protocols and southbound/northbound interfaces/ APIs. Network virtualization overlays are logical, virtual networks that run over (on top of) physical network infrastructure. SDN controller software also runs on top of physical network infrastructure (residing between applications and the network), providing logically centralized network control and a means for application policy to be enacted across the network. It can also facilitate automated network management and networkwide visibility.

For more information about IDC’s Worldwide Semiannual Software-Defined Infrastructure Tracker, please contact Eric Sheppard at esheppard@idc.com.

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