VMware EVO SDDC
Easiest Way to Build and Operate a Software-Defined Data Center (SDDC) Private Cloud

AT A GLANCE

VMware® EVO™ SDDC is a fully integrated and interoperable suite of software that enables customers with the easiest way to build and run an SDDC private cloud. EVO SDDC is delivered as part of an integrated system with pre-qualified hardware provided by partners; this EVO SDDC-based integrated system is ideal for enterprises and service providers focused on greater simplicity, faster time-to-value, enhanced security and lower total cost of ownership (TCO).

KEY BENEFITS

- Fully interoperable SDDC software suite that is delivered pre-integrated on pre-qualified hardware
- Simplified deployment, configuration and ongoing operations management with the EVO SDDC Manager, resulting in greater simplicity and faster time-to-value
- Built on an elastically scalable, distributed hyper-converged architecture
- Enhanced network and security capabilities with VMware NSX™ network virtualization
- Lower TCO through significant OpEx and CapEx benefits offered by SDDC capabilities

Figure 1: EVO SDDC Software Architecture

What is EVO™ SDDC™?

EVO SDDC enables a new class of integrated systems by offering the easiest way to build and run a private cloud based on a software-defined data center (SDDC) architecture. EVO SDDC is a fully integrated and interoperable suite of software that is pre-integrated on pre-qualified hardware offered by partners.

EVO SDDC-based integrated systems aim to:

1. Remove complexity in building a software-defined data center by offering a fully pre-integrated and preconfigured software and hardware system that can be brought up within hours;
2. Deliver faster time-to-value through automated bring up and configuration and infrastructure lifecycle management, including upgrades and updates;
3. Provide an elastically scalable platform to enable customers to better aligning CapEx investments with current and future capacity requirements; and
4. Offer an attractive TCO relative to traditional 3-tier infrastructure solutions

EVO SDDC Architecture

The EVO SDDC software architecture consists of three basic layers as shown in Figure 1: hardware, virtualization, and operations & management layers. In addition to the VMware software components that are sold individually today, EVO SDDC also contains the Hardware Management Services (HMS) software for physical infrastructure management, the EVO SDDC Manager™ for integrated physical and virtual infrastructure management, including deployment, configuration and operations management, and APIs for integration with external software tools and components.

The core responsibilities of the HMS include auto-discovery of new physical capacity, configuration of servers and switches, inventory validation against the pre-qualified bill of materials, reporting and notifications, and low-level patches. The EVO SDDC Manager serves as the primary interface for an operator's day-to-day tasks and provides an integrated view of both the physical and virtual infrastructure. At Day 0, the EVO SDDC Manager automates bring up of the software and configuration of physical entities, including the spine and top-of-rack (ToR) switches. After Day 0, the EVO SDDC Manager dramatically simplifies operations and management with capabilities such as non-disruptive, automated infrastructure lifecycle management and integrated performance management, capacity optimization and real-time log analytics.
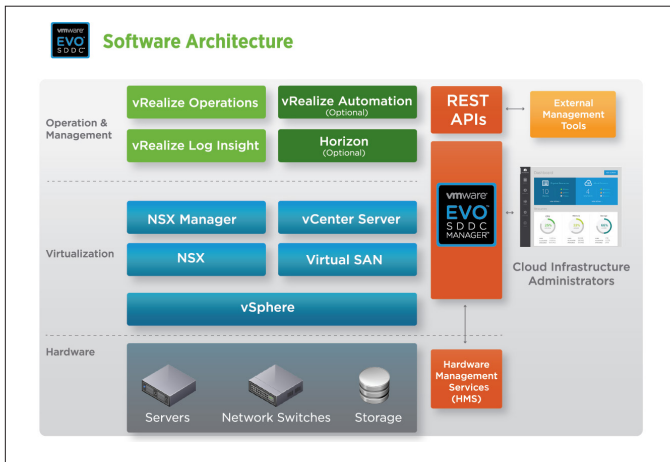
vmware®

The two initial use cases are general purpose IaaS and VDI, supporting up to 1,000 virtual machines (VMs) or 2,000 virtual desktops per physical rack. Within each instance, operators also have the flexibility to host multiple workloads with distinct availability, performance and security characteristics using the workload domain construct. A construct unique to EVO SDDC, as an example, this can be used by operators to simultaneously run both traditional and third-platform applications on the same shared infrastructure.

Key Features and Capabilities

Built on Enterprise-Grade SDDC Infrastructure — VMware EVO SDDC delivers a complete compute, networking and storage virtualization platform with vSphere, NSX and Virtual SAN. These technologies are market-proven in terms of performance and availability, scalability, and support for all application types, including scale-up and scale-out applications, such as Hadoop.

Fully Automated Bring Up and Configuration Process — Within several hours of initial bring up, customers can have a fully operational integrated system powered by VMware EVO SDDC. Once the integrated system is physically deployed at the customer site and the system powered on, the HMS and EVO SDDC Manager are automatically brought up, an inventory check against the bill of materials is performed, and the entire SDDC stack are brought up and configured. Customers will be asked to provide some basic information specific to their datacenter environment, such as DNS, Active Directory, and NTP, and from there, customers are able to request capacity and deploy VMs.

Streamlined Resource Management through Single Virtual Rack Construct — The EVO SDDC Manager takes physical resources distributed across multiple physical racks and aggregates them into a single pool of capacity, or a single virtual rack. Within this virtual rack, resource groups can be carved out with defined performance, availability and security attributes. These resource groups, or workload domains, are defined by the number of clusters, placement of cluster hosts and redundancy of VMware Virtual SAN™ disk groups.

Integrated Management of Physical and Logical Resources — The EVO SDDC Manager provides a single centralized view into both the physical and logical infrastructure—from hardware device level details to network typology to VMs—and is fully integrated and interoperable with existing VMware software that is part of the suite.

Non-Disruptive, Automated Infrastructure Lifecycle Management (LCM) — With full inventory of all relevant component software and hardware in the integrated system—down to specific editions, versions, and latest patch bundles, the EVO SDDC Manager delivers key infrastructure lifecycle management tasks, including upgrades and updates, on either a predefined cadence (such as quarterly) or an as needed basis for the following:

- Low-level software bundles, including firmware, BIOS, and drivers
- VMware software bundles, including VMware vSphere® and VMware NSX™
- EVO SDDC bundles, including EVO SDDC Manager and HMS updates
- Network ToR and spine switch software update bundles

Fully Integrated Physical Network Infrastructure — EVO SDDC- based integrated systems include a prescriptive network design within and across racks. The design requires a leaf-spine topology that consists of ToR and spine switches. EVO SDDC Manager integrates management of the physical network infrastructure with the management of logical network infrastructure. Each physical rack contains two ToR switches, which control for network traffic and redundancy, and a management switch for out-of-band connectivity. With scale out across multiple racks, east-west traffic is fully self-contained. Connectivity between racks is provided using the two inter-rack spine switches. In addition, customers can connect to existing datacenter infrastructure using L2/L3 uplinks through the ToR switches.

Enhanced Security — NSX in EVO SDDC offers automated and intelligent operations and delivery of security services, including firewall, data security, activity monitoring and VPN (IPSEC, SSL). This is achieved through intelligent groupings, security policy and services assigned to groups, and adaptable and proactive security using IF/THEN policy mechanisms to assign responses.

Scalability

Customers can flexibly and dynamically scale on EVO SDDC-based integrated systems. Minimum starting requirement is 8 nodes, or one-third of a rack, and customers can scale up incrementally per server up to 24 nodes, or scale out across multiple racks.

For both small- and large-scale capacity additions, the Hardware Management Service (HMS) auto-discovers the new physical capacity and seamlessly adds those resources to the virtual rack for consumption, non-disruptively extending the virtual rack to larger physical capacity.

Hardware

Integrated systems powered by VMware EVO SDDC require a prescriptive hardware and software bill of materials. While VMware provides the software, partners provide the pre-qualified hardware. Configurations have flexibility in CPU cores, memory and disk storage, amongst others, based on customers' specific requirements. To date, partners include VCE, Quanta, Dell and Fujitsu.

How to Buy

EVO SDDC is always delivered as part of an integrated system, but the EVO SDDC software can be purchased in two ways:

• (1) Customers purchase EVO SDDC through VMware and separately purchase pre-qualified hardware from partners; alternatively,

• (2) Customers purchase both EVO SDDC and the pre-qualified hardware directly from partners

In both scenarios, partners will pre-integrate the EVO SDDC software with the pre-qualified hardware and deliver to customers.

Licensing

EVO SDDC software is licensed on a per processor perpetual license model. Customers who have previously purchased components of EVO SDDC are able to upgrade to EVO SDDC through the Fair Value Conversion program.