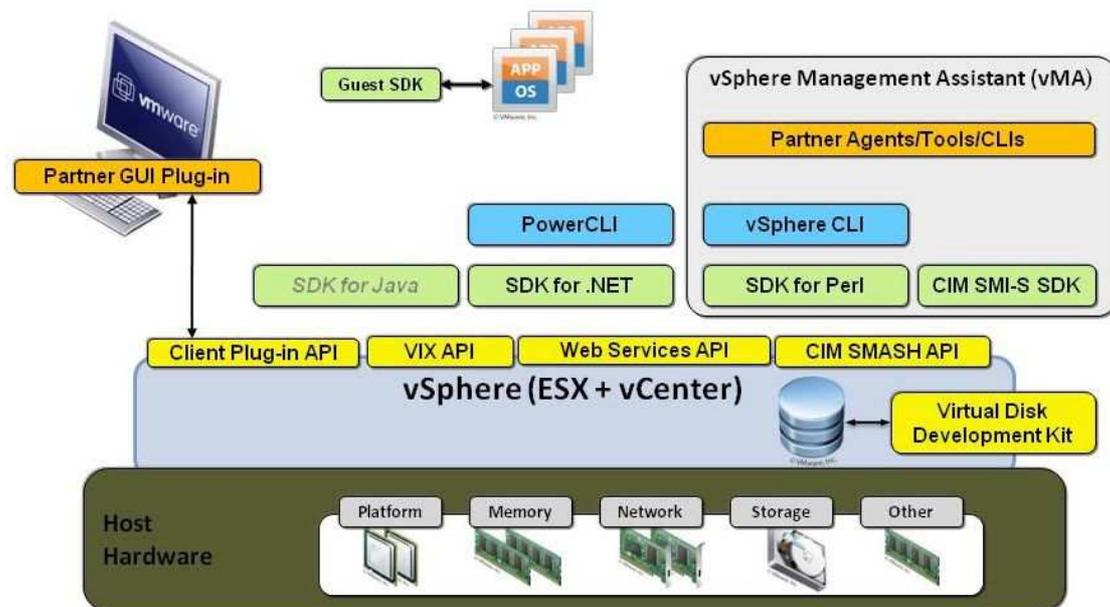


# VMware Manageability Interfaces Overview



VMware provides application programming interfaces (APIs) and software development kits (SDKs) that address the following functional areas:

- host configuration, virtualization management and performance monitoring
- server hardware health monitoring and storage management
- extending the vSphere Client GUI
- access and manipulation of virtual storage
- obtaining statistics from the guest operating system of a virtual machine
- scripting and automating common administrative tasks

## Host Configuration, Virtualization Management and Performance Monitoring

The vSphere Web Services API provides the basis for most of the VMware manageability tools. This API interfaces with ESX/ESXi/vCenter servers and allows you to build applications for managing your virtual environment. This API is packaged as a WSDL that is available through the vSphere Web Services SDK. Clients can monitor and

manage your Virtual Datacenter using a standard web service interfaces (WSDL, SOAP, HTTP) to access and manage server-side objects.

Because the vSphere Web Services SDK retrieves the state of server objects, client applications must maintain their own copy of the server data model. The VMware server-side data model is described in the [Web Services API Reference guide](#). For ease of application programming, VMware provides language-specific SDKs (vSphere SDKs for Perl, .NET, or Java) that have libraries of client objects that can retrieve and instantiate copies of server objects.

## **Server Hardware Health Monitoring and Storage Management**

VMware ESX and ESXi servers include a Common Information Model (CIM) interface that implements a set of server discovery and monitoring features (compatible with the CIM SMASH specification). VMware's implementation of this specification is described in the [CIM SMASH API and Profile Reference](#). VMware also allows storage management applications to use the CIM interface (compatible with the CIM SMI-S specification) available in the vSphere Management Assistant (vMA), a management virtual appliance. In addition to VMware's native implementation of the CIM profiles, some of our OEM and IHV partners have also packaged their CIM management implementations in vSphere to better manage their servers and devices.

## **Extending the vSphere Client GUI**

The vSphere Client (VMware's GUI to manage vSphere) can be extended with the vSphere Client Plug-In API. This API allows customers and partners to independently create and deploy administrative applications that will appear seamlessly within VMware's default management interface.

## **Access and Manipulation of Virtual Storage**

VMware provides the VMware Virtual Disk Development Kit (VDDK) for developing applications that create and access virtual disk storage. Examples of applications developed with VDDK are backup/recovery, anti-virus security, and system storage management. The VDDK is a library of C functions and example applications written in C++.

## **Obtaining Statistics from the Guest Operating System**

VMware vSphere Guest SDK is a read-only programmatic interface for monitoring virtual machine statistics. Management agents or other software running in the guest operating system on a virtual machine can use this data to reach to changes at the application layer.

## **Scripting and Automating Common Administrative Tasks**

VMware also provides command line interfaces (CLIs) that allow you to create scripts to automate common administrative tasks. The vSphere CLI is available for Linux and Microsoft Windows and provides a basic set of administrative commands. vSphere PowerCLI is available on Microsoft Windows and has over 200 commonly-used administrative commands.

To learn more about our extensive SDKs, APIs and Command Line interfaces visit the VMware Developer Community. <http://developer.vmware.com>

The VMware Developer Community provides latest SDK downloads, Reference Documentation, Webinars, Forum Discussion, Sample Code and an opportunity for community members to ask / answer questions and be recognized by your peers.