

Section Roadmap

- Intro to Virtualization & VMware vSphere components
- Install VMware vSphere ESXi 6.
- Install vSphere Client.
- Working with vSphere client
- Storage Concepts
- iSCSI & NFS Storage.

DATA CENTER



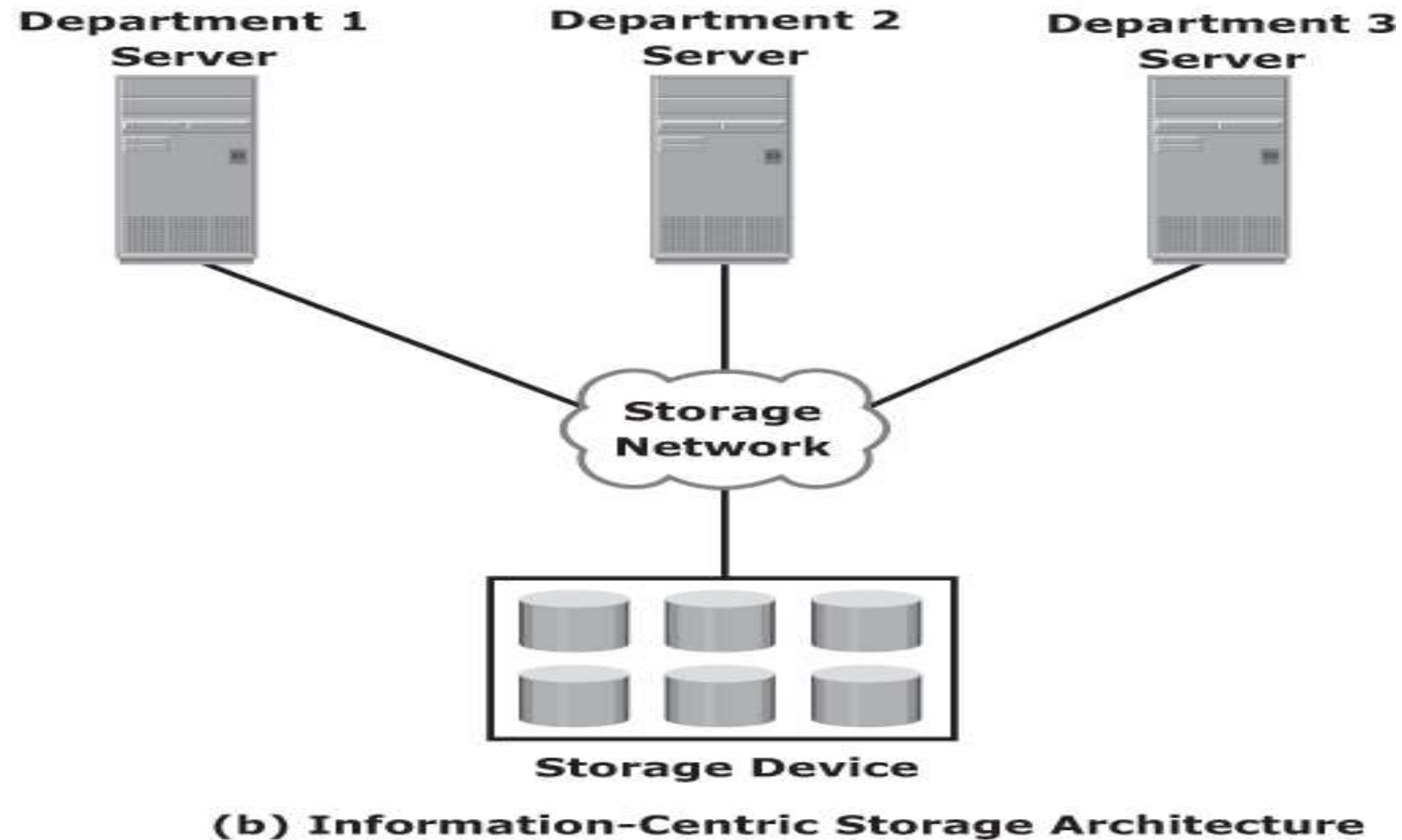
DATA CENTER

- a data center is a physical facility that organizations use to house their critical applications and data. A data center's design is based on a network of computing and storage resources that enable the delivery of shared applications and data. The key components of a data center design include routers, switches, firewalls, storage systems, servers, and application-delivery controllers.



SERVER-CENTRIC VS. INFORMATION-CENTRIC

4



SERVER-CENTRIC VS. INFORMATION-CENTRIC

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➤ Server centric limitations

- Limited Scalability.
- Poor utilization of unused resources
- Cost
- Downtime when scaling up directly attached storage

VIRTUALIZATION



Traditional
architecture



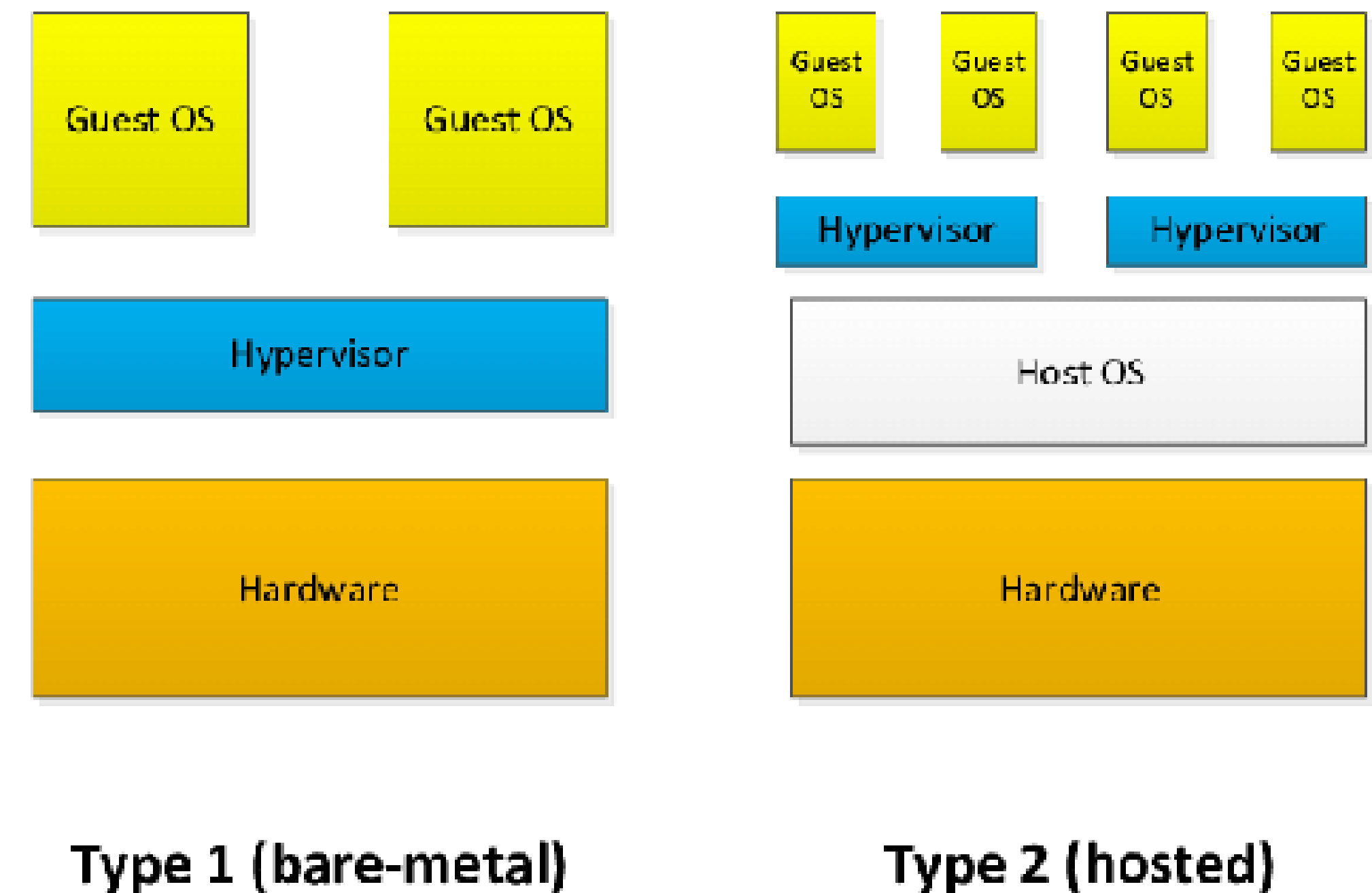
Virtual
architecture

HIPERVISOR

A hypervisor, also known as a virtual machine monitor or VMM, is software that creates and runs virtual machines (VMs). A hypervisor allows one host computer to support multiple guest VMs by virtually sharing its resources, such as memory and processing.

Types of hypervisors

There are two main hypervisor types, referred to as “Type 1” (or “**bare metal**”) and “Type 2” (or “**hosted**”). A type 1 hypervisor acts like a lightweight operating system and runs directly on the host’s hardware, while a type 2 hypervisor runs as a software layer on an operating system, like other computer programs.

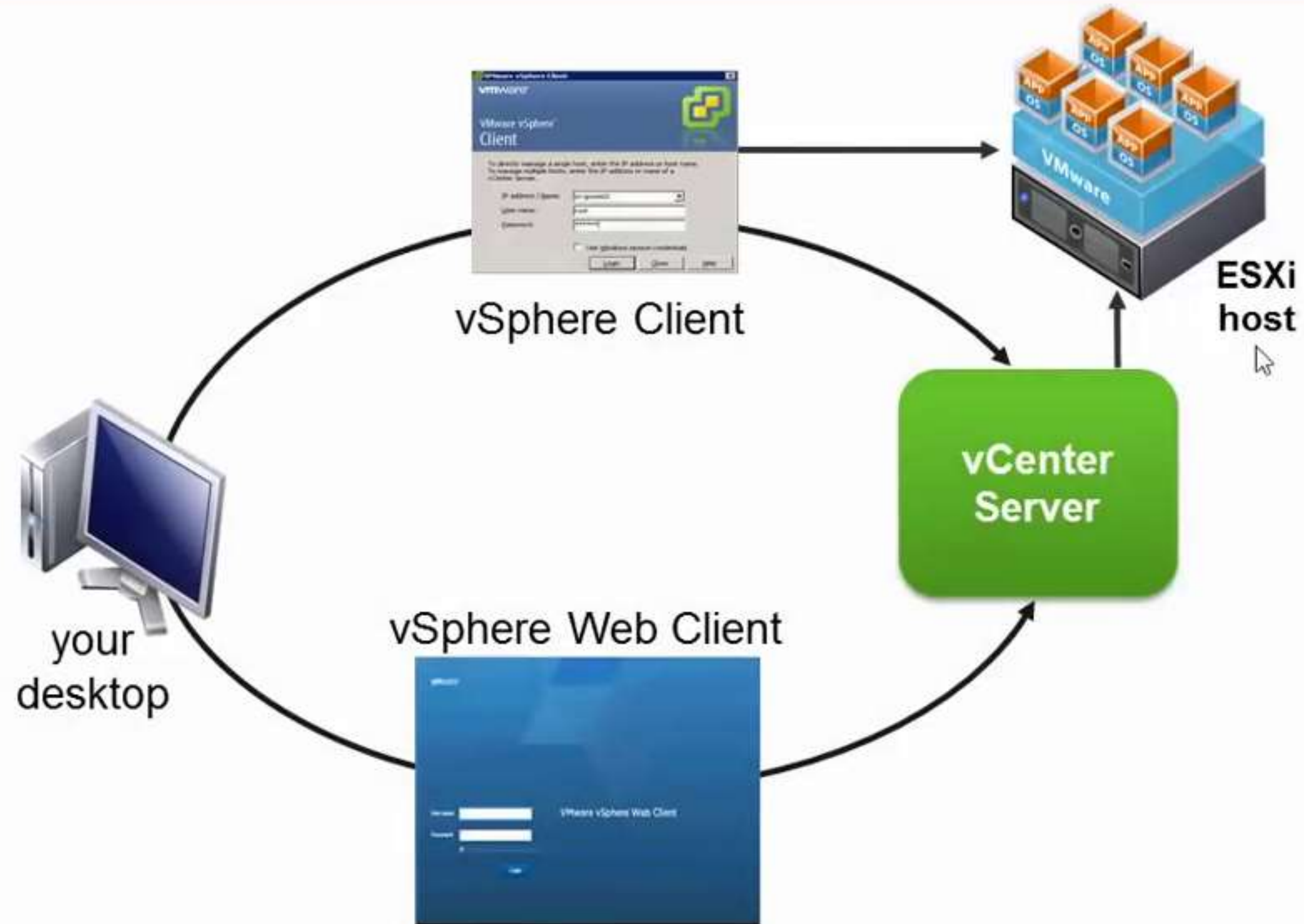




ESXi
vSphere Client
vCenter Server
vSphere Web Client



User Interfaces




Using vSphere Client

In the vSphere Client login window, enter the following:

- Host name or IP address of ESXi host or vCenter Server
- User name
- Password for that user

(Optional) Use your Windows session credentials.



The screenshot shows the VMware vSphere Client login window. The title bar reads "VMware vSphere Client". The window has a blue header with the VMware logo and the text "VMware vSphere Client". Below the header, there is a message box with a yellow icon and text: "In vSphere 5.5, all new vSphere features are available only through the vSphere Web Client. The traditional vSphere Client will continue to operate, supporting the same feature set as vSphere 5.0, but not exposing any of the new features in vSphere 5.5. The vSphere Client is still used for the vSphere Update Manager (VUM) and Host Client, along with a few solutions (e.g. Site Recovery Manager)." Below this message, there is a section for login credentials. It includes a label "To directly manage a single host, enter the IP address or host name. To manage multiple hosts, enter the IP address or name of a vCenter Server." followed by three input fields: "IP address / Name:" with a dropdown menu showing "esxi01.vclass.local", "User name:" with a text box containing "administrator", and "Password:" with a text box containing "*****". Below these fields is a checkbox labeled "Use Windows session credentials". At the bottom right, there are three buttons: "Login", "Close", and "Help".

VMware vSphere Client

vmware

VMware vSphere Client

In vSphere 5.5, all new vSphere features are available only through the vSphere Web Client. The traditional vSphere Client will continue to operate, supporting the same feature set as vSphere 5.0, but not exposing any of the new features in vSphere 5.5. The vSphere Client is still used for the vSphere Update Manager (VUM) and Host Client, along with a few solutions (e.g. Site Recovery Manager).

To directly manage a single host, enter the IP address or host name. To manage multiple hosts, enter the IP address or name of a vCenter Server.

IP address / Name: esxi01.vclass.local

User name: administrator

Password: *****

☐ Use Windows session credentials

Login Close Help

vCenter Server Deployment Options

physical host



- or -



virtual machine

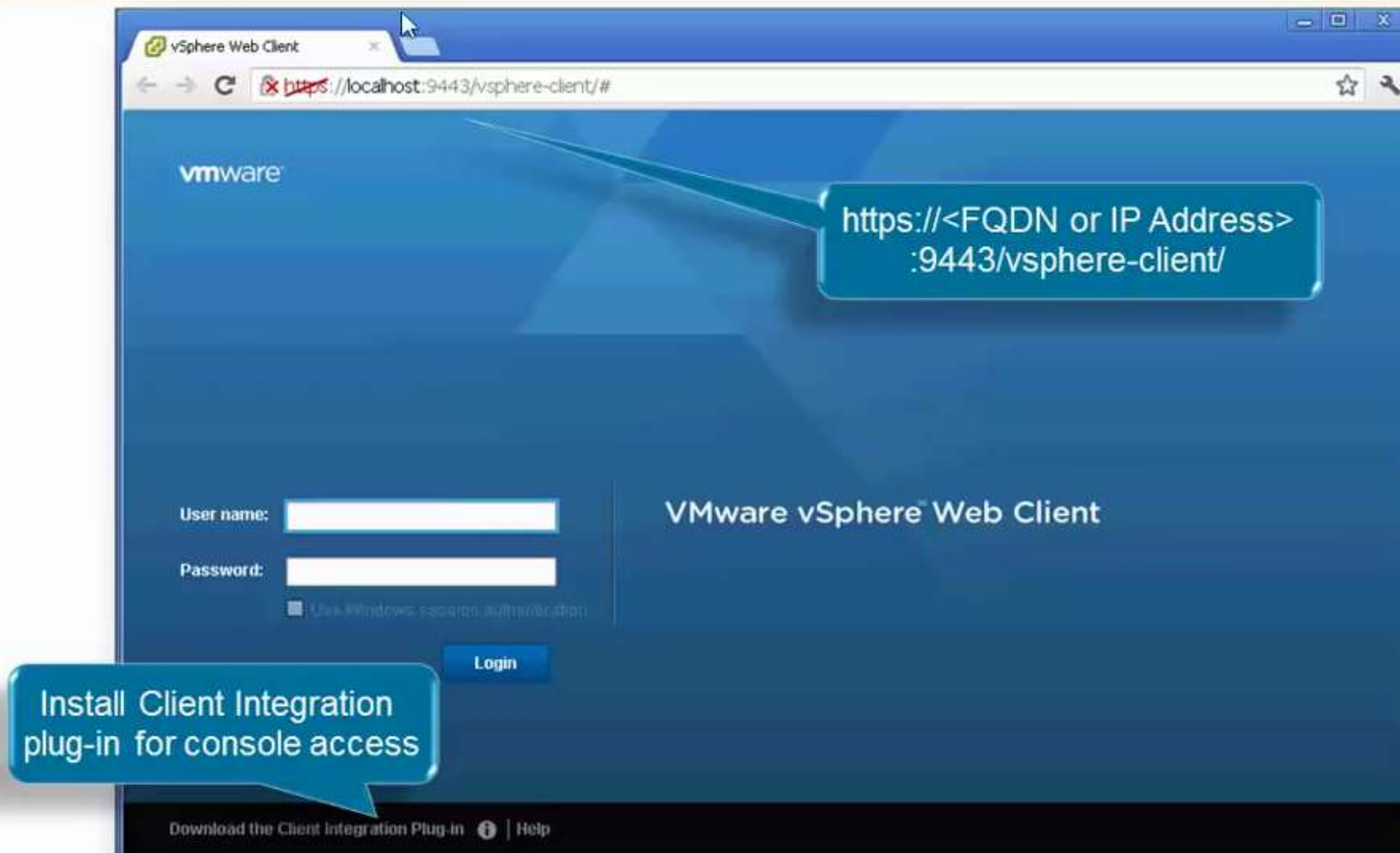
- Deployed on physical host or virtual machine and installed with a supported version of Windows.
 - Reasons to use Windows-based vCenter Server instead of the VMware® vCenter™ Server Appliance™:
 - Support staff trained only on Windows operating systems
 - Applications that depend on a specific Windows version
 - You prefer to use a physical host
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Linux-based

- Deployed as a virtual appliance that runs the SuSE Linux operating system:
 - No operating system license required
 - Simple configuration through a Web browser
 - Offers same user experience as Windows-based version

Accessing vSphere Web Client



Processor:

64-bit

Requires at least two cores

Memory: 4GB RAM minimum

One or more Ethernet controllers:

- Gigabit, 10 Gigabit, and 40 Gigabit Ethernet controllers are supported.
- For best performance and security, use separate Ethernet controllers for the management network and the virtual machine networks.

Disk storage:

- A SCSI adapter, Fibre Channel adapter, converged network adapter, iSCSI adapter, or internal RAID controller
- A SCSI disk, Fibre Channel logical unit number (LUN), iSCSI disk, or RAID LUN with unpartitioned space: SATA, SCSI, or Serial Attached SCSI

