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Installing VMware ESX and ESXi

Module 13

Module Number 13-1

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vSphere Environment

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Installing VMware ESX and ESXi
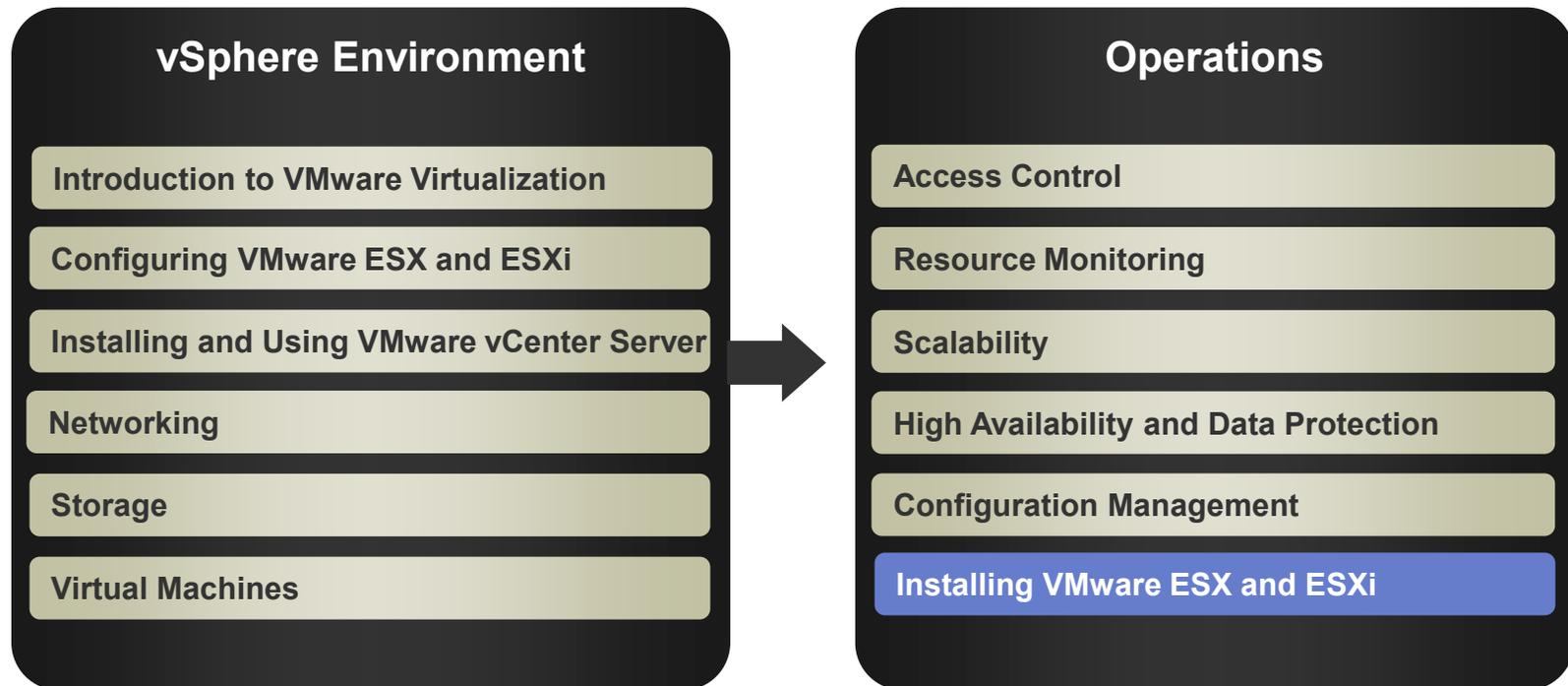
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Importance

> A VMware® ESX™ or ESXi host provides the physical resources used to run virtual machines. Failure to properly install ESX/ESXi can negatively affect the performance, operation, and administration of all hosted virtual machines.

Lesson Objectives

> Determine whether to use ESX or ESXi

> Describe how to install ESXi

> Install ESX

Choosing Between ESX and ESXi

	ESX	*ESXi*
Host boot	**Local disk or SAN**	**USB flash (Embedded) or local disk (Installable)**
Host management	**vSphere Client / vSphere Web Access**	**vSphere Client**
Service console	**Based on RHEL 5.2**	**None**
Command-line access	**Service console (or SSH) or vCLI**	**BIOS-like direct console or vCLI**
Management agents	**Service console or vSphere API**	**CIM and vSphere API**
Security	**Medium**	**High (32MB footprint)**
Patching	**Update or reinstall**	**Reinstall (quick)**
vSphere compatibility	**Full**	**Full**

ESXi Installable Hardware Prerequisites

Processor – 64-bit server:

> Up to 64 logical CPUs (cores or hyperthreads)

Memory – 3GB RAM minimum, 512GB maximum

One or more Ethernet controllers:

> 10 Gigabit Ethernet NIC cards 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, iSCSI adapter, or internal RAID controller

> A SCSI disk, Fibre Channel LUN, iSCSI disk, or RAID LUN with unpartitioned space

> ■ SATA, SCSI, SAS, SANs

Installing ESXi Installable

Burn an ESXi Installable ISO image to a CD-ROM.

Boot from the CD-ROM to launch the ESXi installer.

Make sure that you choose the correct disk.

The local device is Disk9. All other disks are on the Fibre Channel (fc) SAN.

```
                     Select a Disk

Disk4   DGC      RAID 5           fc        1.0 GB    Y
Disk5   DGC      LUN2             fc        0.0 B     Y
Disk6   DGC      RAID 5           fc       10.0 GB    N
Disk7   DGC      RAID 5           fc        1.0 GB    Y
Disk8   DGC      RAID 5           fc        1.0 GB    Y
Disk9   VMware Block device block         136.7 GB    Y
Disk10  DGC      RAID 5           fc       80.0 GB    N


        (Esc) Cancel        (Enter) Continue
```

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ESXi Storage Behavior

On the hard disk or USB device from which ESXi is booting, the disk partition layout is as follows:

> Any existing hardware vendors' diagnostic partition is retained

> In the remaining space, the software creates:

- One 4GB VFAT scratch partition for system swap
- One 110MB diagnostic partition for core dumps
- One VMware vStorage VMFS partition on the remaining free space

On all other internal disks without a partition table or partition, a VMFS datastore is created.

If the scratch partition is not enabled, the host will use an additional 512MB of memory.

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ESX Hardware Prerequisites

Processor – 64-bit server

> Up to 64 logical CPUs (cores or hyperthreads)

Memory – 2GB RAM minimum, 512GB maximum

One or more Ethernet controllers:

> 10 Gigabit Ethernet NIC cards are supported.

> For best performance and security, use separate Ethernet controllers for the service console and the virtual machines.

Disk storage:

> A SCSI adapter, Fibre Channel adapter, iSCSI adapter, or internal RAID controller

> A SCSI disk, Fibre Channel LUN, iSCSI disk, or RAID LUN with unpartitioned space

- ATA, IDE, SATA, SCSI, SANs

Installing ESX

ESX can be installed using one of three methods:

> Graphical interface – The recommended installation method

> Text mode –Method to use if your video controller, keyboard, or mouse does not function properly

> Scripted – An efficient way to deploy multiple hosts

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ESX Installation Information

The ESX installer prompts you for the following information:

> Custom drivers

> License key

> Network adapter for the service console and optional VLAN ID

> IP settings: IP address, subnet mask, gateway, primary DNS address, and secondary DNS address

> Host name

> Time zone

> Date and time, and optional NTP server

> Root password

ESX Installation: Standard or Advanced Setup

The ESX installer also asks you to choose Standard or Advanced setup.

Standard setup:

> Storage device to install ESX

Advanced setup:

> You can edit the virtual disk partition sizes and add additional partitions.

> Edit location of the boot loader, bootloader kernel options, and bootloader password.

ESX Partitions

ESX Host

/boot

vmkcore

VMFS

**Disk on which
ESX is being installed**

swap

/var/log

/
(root)
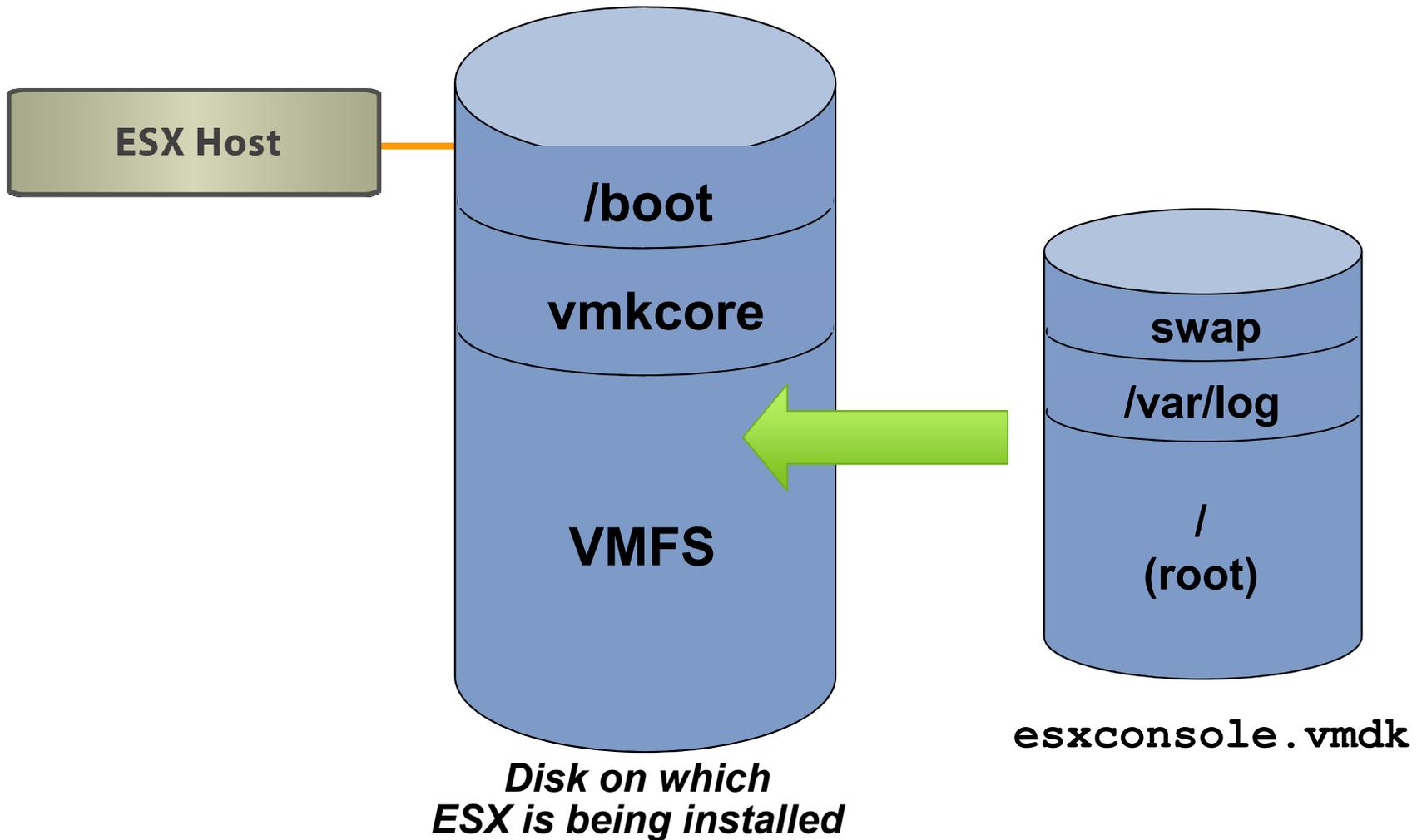
`esxconsole.vmdk`

ESX Physical Console After Installation

If you see this window on the ESX console, then ESX host has been successfully installed.

```
VMware ESX 4.0.0 build-162903

HP ProLiant DL360 G5

2 x Intel(R) Xeon(R) CPU 5160 @ 3.00GHz
4 GB Memory

Download tools to manage this host from:

    http://192.168.209.54/

To open the ESX console, press Alt-F1.
To return to this screen, press Alt-F11.
```

Lab 23/24

Perform Lab 23 if you are using the VDC lab environment.

Perform Lab 24 if you are using a lab environment other than the VDC.

In either lab, you will install ESX on a local volume.

1. Install ESX software.

2. Access the installed ESX host using the vSphere Client.

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Key Points

> ESXi Embedded comes preinstalled on its host.

> ESXi Installable and ESX require you to install the software.