



A S e r i e s F a i l u r e s

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VCAP-DCA Objective 7.1 : Secure ESX(i) Hosts »

VCAP-DCA Objective 7.1 : Secure ESX(i) Hosts

Another VCAP-DCA objective here. For a complete list of study objectives for the VCAP-DCA (VDCA-410) browse to <http://www.vfail.net/vcap-dca/>.

This is the first pass through the objective for Installing ESX Server with Custom Settings.

Knowledge

Identify Service Console memory defaults and maximums

With vSphere 4.x the default is not exactly cut and dry. The default is 300mb, however with amounts of ram 16GB or larger the default will actually be more. The maximum is 800 MB regardless. As for answering this question in a lab I'm not sure it will really matter. Just be aware of these things and check out [this excellent blog article by Duncan Epping](#) on the topic.

Identify default and optional ESX partitions

A default ESX installation will leave you with the below configuration. Note this was with a 40 GB disk so you will have more space on your vmfs volume with a bigger drive.

Service Console Partitions:	vmkcore	110 MB
	vmfs3	39.75 GB
	swap	600 MB
	ext3	5.00 GB /
	ext3	1.10 GB /boot
	ext3	2.00 GB /var/log

Additionally you may create other partitions.

/opt Some of the logging occurs here for HA and hardware agents so it may be best to move this partition out to it's own to prevent root from filling up. Read [Jason Boche's blog](#) to read more about this.

/tmp Another good one to move outside of root to prevent it from taking up space?

/home not necessarily needed anymore but again if its used you risk filling up root by not having a seperate mount point.

/var You may want to create the mount point here to dedicate more space to /var/log and /var/core and to prevent filling up your root directory.

Skills and Abilities

Configure optional ESX partitions during installation

See above

Install/uninstall custom drivers

- Can be done during ESX installation or post installation using vCenter Update manager or the vSphere CLI.
- Cannot be done using PXE

Configure advanced bootloader options

- If you deselect the Configure boot loader automatically check box, the Bootloader Options page will appear.
- Enter bootloader kernel arguments. These arguments will be written to the grub.conf file and they will be passed to the ESX kernel every time ESX boots.
- An optional bootloader password of up to 30 characters can be entered.
- By default the GRUB bootloader is installed in the MBR. For legacy hardware that stores BIOS info in the MBR, click Install CBLIR on the first partition of the disk instead

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Install GRUB on the first partition of the disk instead.

Configure kernel options

- In the advanced setup you can specify kernel arguments to be written to the grub.conf file and passed to the kernel every time ESX boots.

http://www.vmware.com/pdf/vsphere4/r40/vsp_40_esx_vc_installation_guide.pdf

Given a scenario, determine when to customize a configuration

Tools

ESX and vCenter Server Installation Guide

Product Documentation

vSphere CLI

vicfg-advcfg

- The vicfg-advcfg command offers a number of low-level advanced options.
- Most options are not intended for customer use. You might use this command when VMware Technical Support or a VMware Knowledge Base article instruct you to do so.
- You can use the vicfg-advcfg -s option to enable and disable CIM providers.

Set a VMkernel option:

```
vicfg-advcfg <conn_options> --set-kernel 1 assumeCommonBusClock
```

Set the value of a specific configuration item given its identifying path and the value to set:

```
vicfg-advcfg <conn_options> -s 1 VMkernel.Boot.xapicForce
```

vicfg-module

- The vicfg-module command supports setting and retrieving VMkernel module options. This command is a vSphere CLI implementation of the esxcfg-module service console command, but it supports only some of the options esxcfg-module supports. The command is commonly used when VMware Technical Support, a Knowledge Base article, or VMware documentation instruct you to do so.

Configure a supported NIC to use NetQueue:

```
vicfg-module <conn_options> -s "intr_type=2 rx_ring_num=8" s2io
```

Verify that NetQueue has been configured:

```
vicfg-module <conn_options> -g s2io
```

List the set of modules on the host:

```
vicfg-module <conn_options> -l
```

Other relevant blogs and websites related to this section

<http://vmetc.com/2009/07/22/best-practices-for-vsphere-esx-4-service-console-partitions/>

<http://www.yellow-bricks.com/2009/05/27/partitioning-your-esx-host-part-ii/>

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 [VCAP-DCA](#), [VMware](#), [vsphere](#)

 Configuration
Maximums for
VMware

vSphere is my favorite VMware document. It answers many of the "How many", "How much" type questions about VI capabilities. This is one of the documents that will most often be updated as new releases of VMware VI are released so it's a good one to keep tabs on.

<http://www.vmware.com/pdf/vsphere4/r41>

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