



EMEA

#vBrownbag's

VCAP5-CIA – Objectives 1.x

Who am I

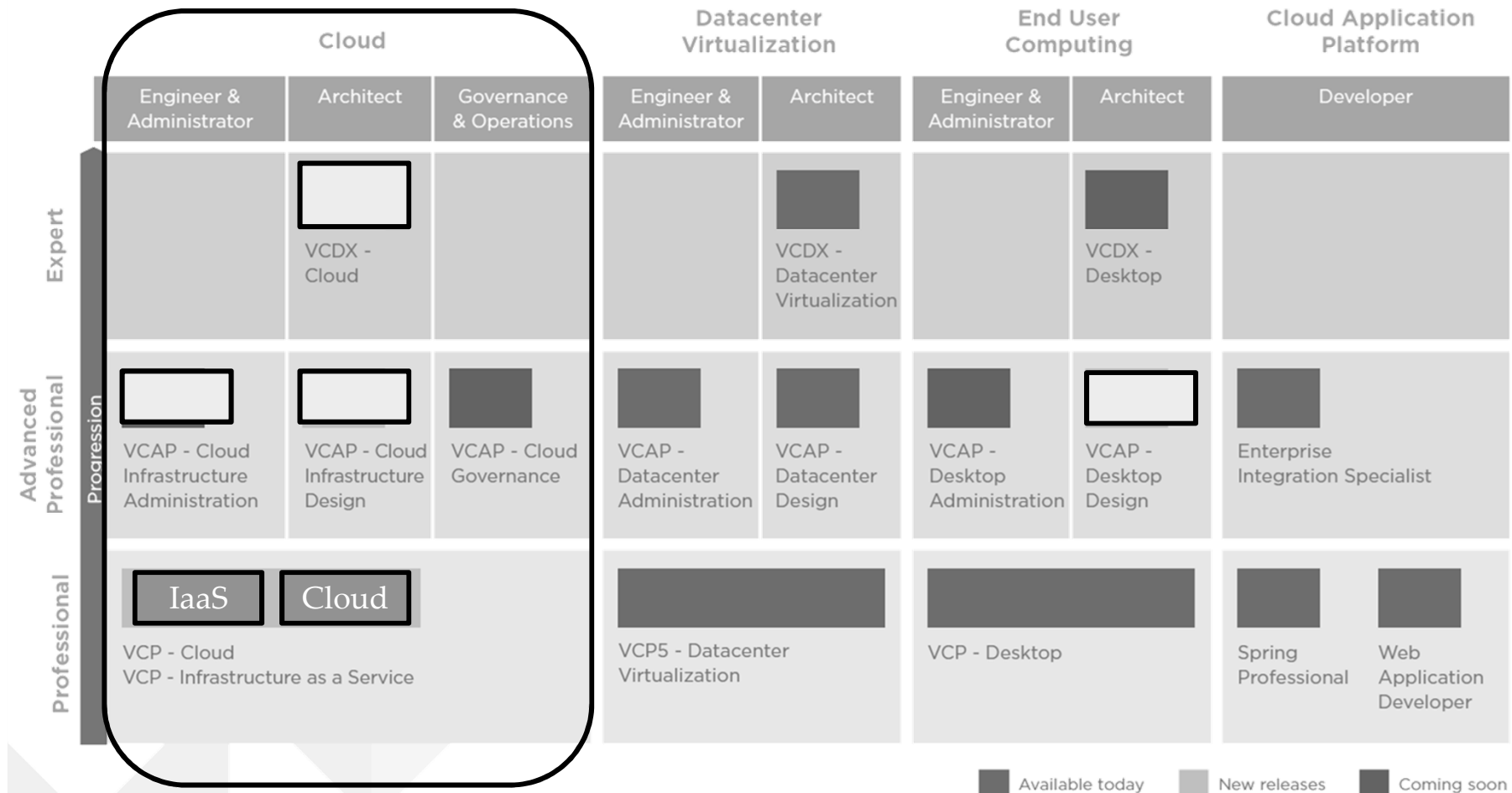
- My name is Andrew (Andrea in Italy) Mauro
- My blog: <http://vinfrastructure.it/en/>
- I'm a proud member of the Italian VMUG
 - Aka the Italian vMaffia :-0
- My certs: vExpert 2000,2001,2012,2013 VCDX 3/4/5, VCAP-DCA 4/5, VCAP-DCD 4/5, VCAP5-DTD, VCP 3/4/5, VCP-DT 4/5, VCP5-Cloud...
...also some MCSA and MCSE and others...
- You can find me on twitter as: @Andrea_Mauro
- Currently I work for Assyris Srl as an IT architect

Certification paths

- New paths announced during VMworld US
 - <http://vinfrastructure.it/en/2012/09/report-from-vmworld-us-2012-new-certifications/>
- Different silos
- Developers oriented
 - Cloud Application Platform
- System Administrator oriented
 - Datacenter Virtualization (DCV)
 - End User Computing (DT)
 - Cloud

Certification Roadmap

Certification tracks



● VCAP5-CIA Certification

11/06/2013 ● 4

VCAP5-CIA

- **VMware Certification page**

- http://mylearn.vmware.com/mgrReg/plan.cfm?plan=37629&ui=www_cert

- **Resources**

- [Exam Blueprint](#)
- [vCloud Director Instructional Videos](#)
- No Mock or lab sample (yet)!
- Links collection:
 - <http://vinfrastructure.it/en/2013/06/vcap5-cia-study-guides/>
 - <http://thesaffageek.co.uk/vsphere-5-x-cloud-study-resources/vcap5-cia-and-cid/>



VCAP5-CIA Paths

- Direct and cross-path

1. Have one of the following certifications:
 - VMware Certified Professional – Cloud (VCP-Cloud)
 - VMware Certified Professional 5 – Data Center Virtualization (VCP5-DCV)
 - VMware Certified Professional 5 – Desktop (VCP5-DT)
2. Pass the VCAP-CIA exam
Before you can schedule your VCAP-CIA exam, you must request authorization.

IF YOU ARE...	EXAM	CERTIFICATION
Currently VCP-Cloud Certified	Pass the VCAP-CIA Exam	VCAP-CIA
Currently VCP5-DCV or VCP5-DT Certified	Pass the VCAP-CIA Exam	VCAP-CIA and VCP-Cloud

Certification requirements are subject to change and may not be retroactive to previous versions.
Please regularly check vmware.com/certification for updates.

VCAP5-CIA Exam

- Authorization
 - Before you can schedule your VCAP-CIA exam, you must request authorization
- VUE code VCIA510
 - Same price as other VCAP exams
 - Same (limited!) testing centers
- 32 live lab in 210 minutes
 - +30min in non English countries
- Lab
 - lab environment is based on VMware vCloud Suite 5.1 and vCenter Chargeback Manager 2.5

VCAP5-CIA courses

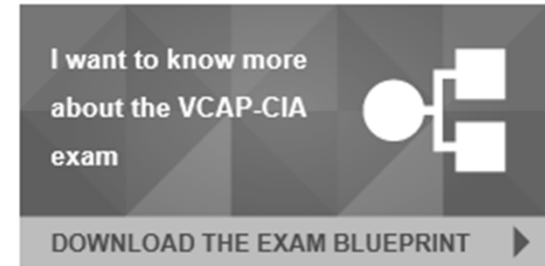
- Nothing mandatory
- Nothing (officially) suggested
- Free Instructional Video
 - vCloud Director Concepts and Architecture
 - http://mylearn.vmware.com/mgrReg/plan.cfm?plan=36740&ui=www_edu
 - Trainsignal free course
 - <http://www.trainsignal.com/Course/147/VMware-vCloud-Director-Essentials>
 - Check also in the VMware Partner area

VCAP5-CIA Lab

- You need a lab or a good practical experience to pass an admin role based exam!
- You need also good vSphere experience and moderated Linux experience too!
- There is a VA for vCloud Director
 - Some issue if you plan to use with Workstation
 - <http://vinfrastructure.it/en/2013/06/installing-vcloud-director-in-a-lab/>

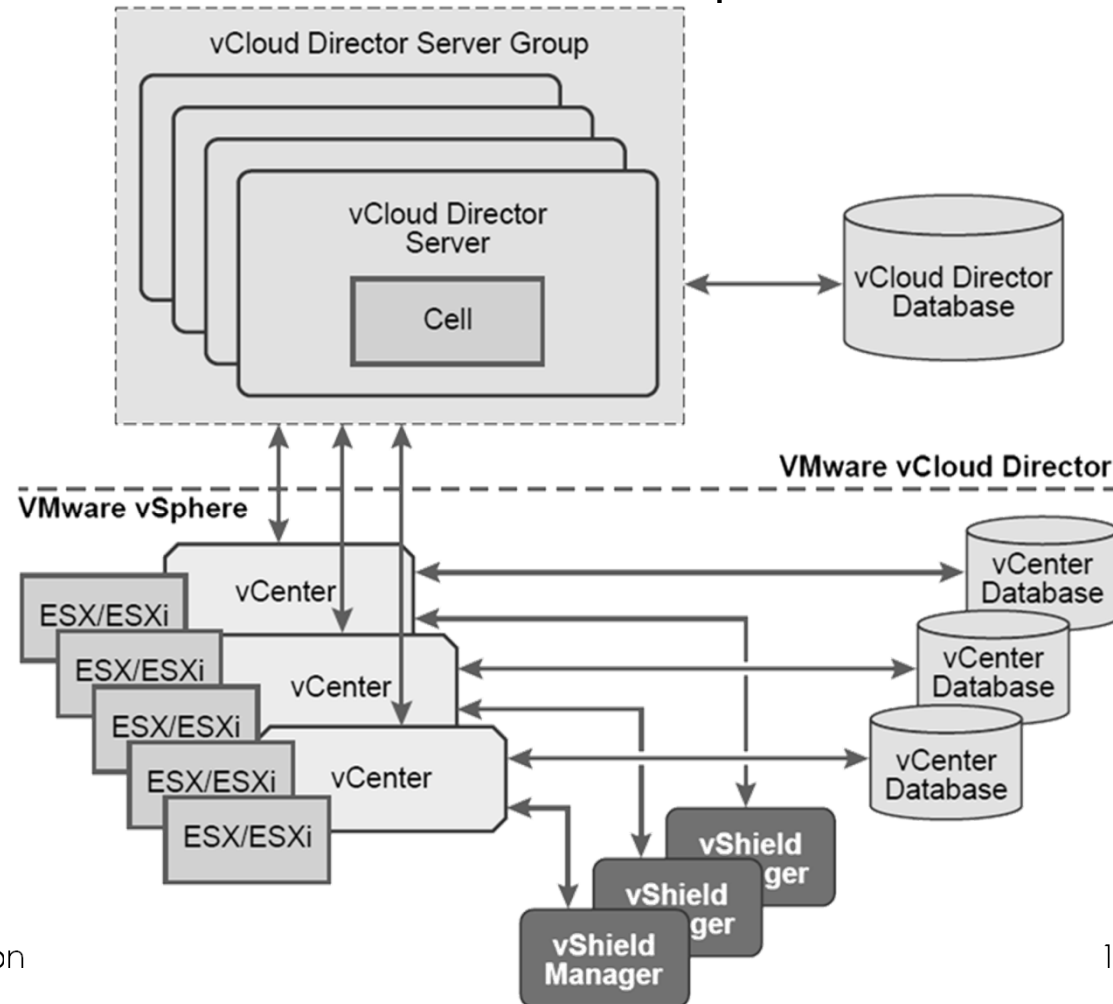
VCAP5-CIA Blueprint

- Filename still with v2.3
 - **02 April 2013**
- Several links are included
 - Note that other material may be needed
 - VMware KB
 - Whitepapers
- Official reference
 - <http://www.vmware.com/support/pubs/vmware-vcloud-suite-pubs.html>
 - Part is available in the live lab



VCAP5-CIA Objective 0

- General architecture and concepts



VCAP5-CIA Objective 0

- Install vCloud Director
 - <http://kendrickcoleman.com/index.php/Tech-Blog/how-to-install-vcloud-director-15-from-beginning-to-end.html>
 - <http://kendrickcoleman.com/index.php/Tech-Blog/how-to-install-vcloud-director-on-rhel-62-no-gui.html>
- Building vCloud Suite POC
 - <http://defaultreasoning.com/2013/03/12/building-vcloud-suite-poc-part-1-introduction/>
 - <http://defaultreasoning.com/2013/03/14/building-vcloud-suite-poc-part-2-installing-vcloud-director-cell/>
 - <http://defaultreasoning.com/2013/03/18/building-vcloud-suite-poc-part-3-vcloud-director-configuration/>

VCAP5-CIA Section 1

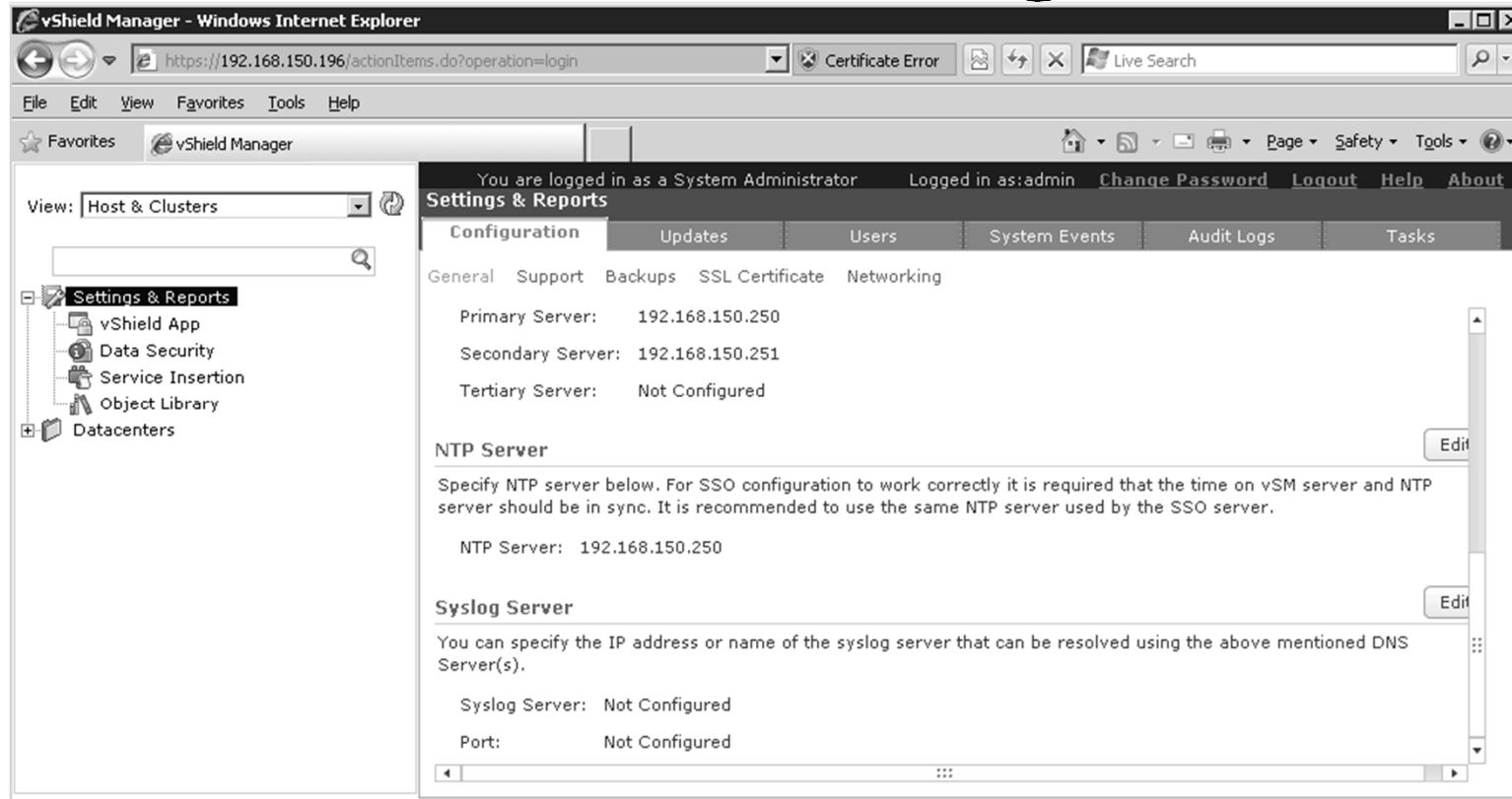
- Configure and Maintain vCloud Director
 - Objective 1.1 - Configure centralized logging
 - Objective 1.2 - Configure vCloud Director for scalability
 - Objective 1.3 - Maintain vCloud using command line tools
 - Objective 1.4 - Configure Alarms and Notifications
 - Objective 1.5 - Manage vCenter Chargeback reports

VCAP5-CIA Objective 1.1

- Configure centralized logging
 - Determine use cases for and configure local and syslog options for vCloud Director
 - Configure and administer logging options for VMware vShield™ Manager
 - Configure Log4j options for vCloud Director
- Why centralized log?
 - Admin or Design question?
- Must read:
 - <http://fojta.wordpress.com/2012/12/19/centralized-logging-in-vcloud-director-environments/>

VCAP5-CIA Objective 1.1

- Configure and administer logging options for VMware vShield™ Manager



VCAP5-CIA Objective 1.1

- Configure Log4j options for vCloud Director
 - KB Configuring logging for VMware vCloud Director cells (1026815)
 - File `/opt/vmware/vcloud-director/etc/log4j.properties`
 - `log4j.rootLogger=ERROR, vcloud.system.debug, vcloud.system.info, vcloud.system.syslog`
 - `log4j.appender.vcloud.system.syslog=org.apache.log4j.net.SyslogAppender`
 - `log4j.appender.vcloud.system.syslog.syslogHost=SYSLOG:514`
 - `log4j.appender.vcloud.system.syslog.facility=LOCAL1`
 - `log4j.appender.vcloud.system.syslog.threshold=INFO`
 - `log4j.appender.vcloud.system.syslog.MaxFileSize=25000KB`
 - `log4j.appender.vcloud.system.syslog.MaxBackupIndex=5`
 - `service vmware-vcd restart`
- You have to use a Linux editor!
- No references in the official docs!

VCAP5-CIA Objective 1.2

- Configure vCloud Director for scalability
 - Generate vCloud Director response files
 - Add vCloud cells to an existing installation using response files
 - Set up vCloud Director transfer storage space
 - Configure vCloud Director load balancing

VCAP5-CIA Objective 1.2

- Generate vCloud Director response files
 - Generate vCloud Director response files – KB Installing VMware vCloud Director software on additional servers (1026382)
 - Page 35 of the Install Guide
 - /opt/vmware/cloud-director/etc/responses.properties
 - Note the existing example and study the syntax!
- Add vCloud cells to an existing installation using response files
 - <http://www.virtualizationteam.com/virtualization-vmware/vcloud-director/how-to-add-a-second-vcloud-director-cell.html>
 - Installer with the -r option to specify the response file
 - Page 28 of the Install Guide

VCAP5-CIA Objective 1.2

- Set up vCloud Director transfer storage space
 - NFS share mounted in
 - /opt/vmware/vcloud-director/data/transfer
 - <http://www.boche.net/blog/index.php/2012/07/03/creating-vcloud-director-transfer-server-storage-on-nfs/>
 - <http://www.boche.net/blog/index.php/2011/12/05/expanding-vcloud-director-transfer-server-storage/>
 - <http://www.gabesvirtualworld.com/how-to-move-vcloud-transfer-directory/>
- Configure vCloud Director load balancing
 - <http://download3.vmware.com/vcat/documentation-center/index.html#page/Architecting%20a%20vCloud/3a%20Architecting%20a%20VMware%20vCloud.2.168.html>

VCAP5-CIA Objective 1.3

- Maintain vCloud using command line tools
 - Manage and maintain vCloud Director cells using the cell management tool
 - Install and manage a vCloud Director installation using the configure script
 - Manage vCloud services using Red Hat command line tools including service, chkconfig and netstat
 - Collect logs for troubleshooting using the support script

VCAP5-CIA Objective 1.3

- Manage and maintain vCloud Director cells using the cell management tool
 - Page 35 of the Install Guide
 - `./cell-management-tool -u administrator -p Password cell --status`
 - `./cell-management-tool -u administrator -p Password cell --quiesce true`
 - `./cell-management-tool -u administrator -p Password cell --shutdown`
- KB Using the Cell Management Tool to shut down a vCloud Director 1.5.x and below Cell (1033575)
- Stopping, starting, or restarting the VMware vCloud Director service (1026310)

Option	Action
Start services	Open a console, shell, or terminal window and run the following command. <code>service vmware-vcd start</code>
Stop services when the cell is in use	Use the cell management tool.
Stop services when the cell is not in use	Open a console, shell, or terminal window and run the following command. <code>service vmware-vcd stop</code>

VCAP5-CIA Objective 1.3

- Install and manage a vCloud Director installation using the configure script
 - Before it you must have
 - A supported and working DB
 - SSL certificates in a keystore
 - Page 25 of the Install Guide

```
[root@vCD-Cell01 bin]# ./configure
Welcome to the vCloud Director configuration utility.

You will be prompted to enter a number of parameters that are necessary to
configure and start the vCloud Director service.

Please indicate which IP address available on this machine should be used for
the HTTP service and which IP address should be used for the remote console proxy.

The HTTP service IP address is used for accessing the user interface and the
REST API. The remote console proxy IP address is used for all remote console (VMRC)
connections and traffic.

Please enter your choice for the HTTP service IP address:
  1. 192.168.50.131
  2. 192.168.50.132
Choice [default=1]: 1

Please enter your choice for the remote console proxy IP address:
  1. 192.168.50.132
Choice [default=1]: 1

Please enter the path to the Java keystore containing your SSL certificates and
private keys: /opt/vmware/vcloud-director/data/transfer/certificates.ks
Please enter the password for the keystore:

If you would like to enable remote audit logging to a syslog host please enter
the hostname or IP address of the syslog server. Audit logs are stored by
vCloud Director for 90 days. Exporting logs via syslog will enable you to
preserve them for as long as necessary.

Syslog host name or IP address [press Enter to skip]: 192.168.50.15
```

VCAP5-CIA Objective 1.3

- Manage vCloud services using Red Hat command line tools including service, chkconfig and netstat
 - Minimum of Linux administration
 - service & chkconfig are RedHat tools
- Collect logs for troubleshooting using the support script
 - vmware-vcd-support
 - Collecting diagnostic information for VMware vCloud Director 1.x / 5.1.x (1026312)

VCAP5-CIA Objective 1.4

- Configure Alarms and Notifications
 - Configure SMTP and notification settings
 - Configure warning alerts
 - Create System maintenance message

VCAP5-CIA Objective 1.4

- Configure SMTP and notification settings
 - Page 30 of the Admin guide
 - http://pubs.vmware.com/vcd-51/index.jsp?topic=%2Fcom.vmware.vcloud.admin.doc_51%2FGUID-28EC50AE-03F9-4E34-AE05-BDC31BC5F507.html
 - Click the Administration tab and click Email in the left pane

The screenshot shows the vCloud Administrator web interface. At the top, there are tabs for 'System', 'Home', 'Manage & Monitor', and 'Administration'. The 'Administration' tab is selected. On the left, a navigation pane shows 'System Administrators & Roles' (Users, Groups, Roles, Lost & Found) and 'System Settings' (General, Email, LDAP, Password Policy, License, Branding, Public Addresses, Extensibility, Federation). The 'Email' option under 'System Settings' is highlighted. The main content area is titled 'Email' and contains two sections: 'SMTP Settings' and 'System Notification Settings'. In the 'SMTP Settings' section, there are input fields for 'SMTP server name' (10.10.13.10), 'SMTP server port' (25), 'User name', 'Password', and 'Sender's email address' (vcdadmin@dr-lab-d.local). There is a checkbox for 'Requires authentication' which is unchecked. Below these is an input field for 'Email subject prefix' and another for 'Test destination' with a 'Test SMTP settings...' button. A note below the 'Test destination' field says 'Email address of the test email recipient.' The 'System Notification Settings' section has a 'Send system notification to:' label with two radio buttons: 'All system administrators' (selected) and 'These email addresses'. Below the radio buttons is an input field for email addresses with the instruction 'Enter comma-separated email addresses.'

VCAP5-CIA Objective 1.4

- Configure warning alerts
 - Page 31 of the Admin guide
 - Some alert are in vCenter Server
 - Other (storage) in the provider vDC
- Create System maintenance message
 - Page 35 of the Admin guide
 - **Configuring the VMware vCloud Director cell maintenance message (1026337)**
 - /opt/vmware/cloud-director/bin/vmware-vcd-cell maintenance

VCAP5-CIA Objective 1.5

- Manage vCenter Chargeback reports
 - Objective 1.5 - Generate and archive basic reports
 - **VMware vCenter Chargeback Manager Fundamentals [V2.5]**
 - http://mylearn.vmware.com/mgrreg/courses.cfm?ui=www_edu&a=one&id_subject=41586