

23/10/2012



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How many turtles can you fit on a rock?

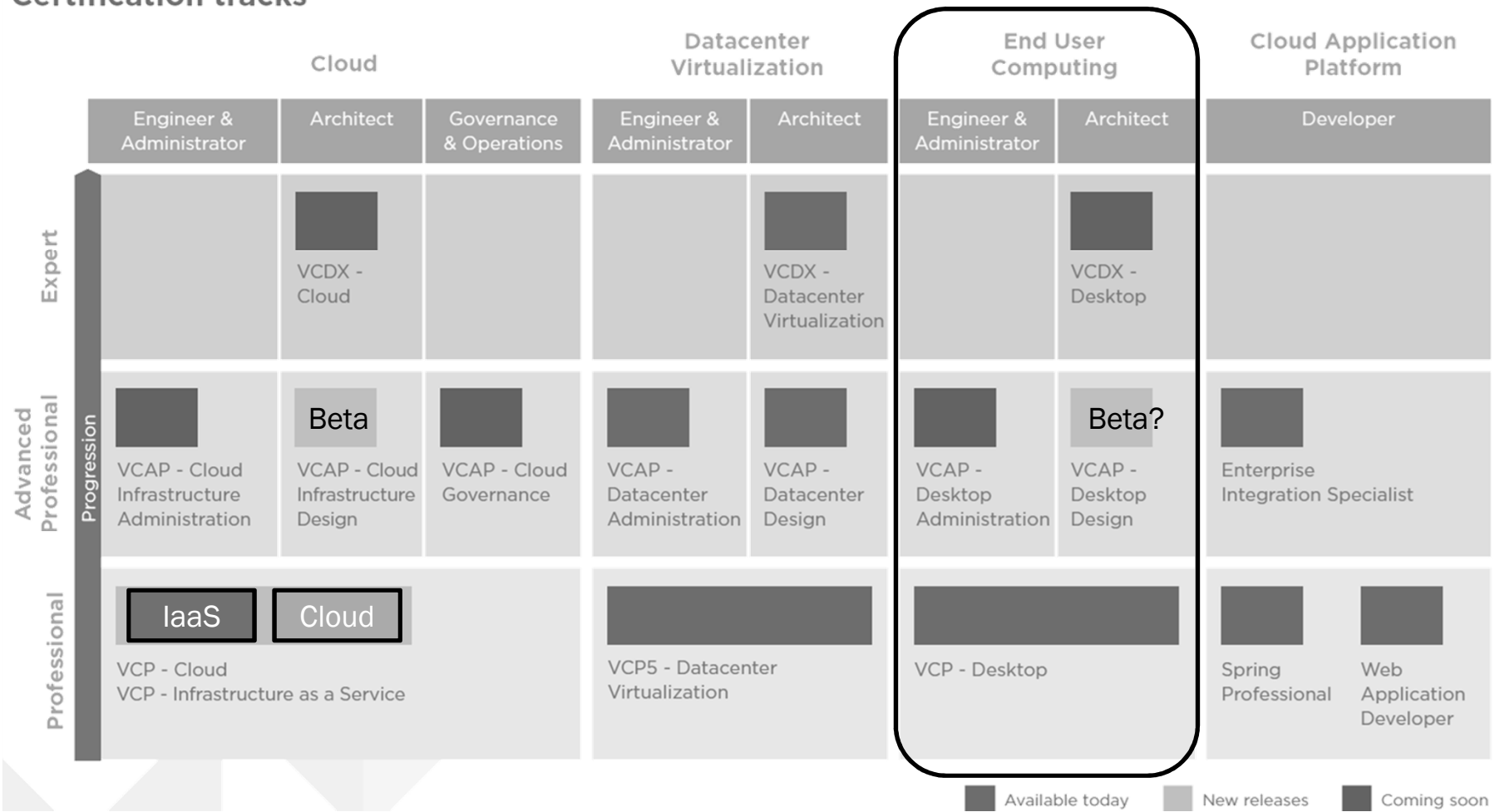
Andrew Mauro

**#VBROWNBAG EMEA**

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# CERTIFICATION ROADMAP

## Certification tracks



# CERTIFICATION PATHS

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- ✘ 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 (DV)
  - + End User Computing (DT)
  - + Cloud



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# CERTIFICATION LEVELS

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- × VCP (Professional)
- × VCAP (Advanced)
- × VCDX (Expert)
- × Where is VCA (Associated)?



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# VCP5-DT

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## × VMware Certification page

+ [http://mylearn.vmware.com/mgrReg/plan.cfm?plan=28343&ui=www\\_cert](http://mylearn.vmware.com/mgrReg/plan.cfm?plan=28343&ui=www_cert)

## × VCP5-DT Resources

+ [VCP5-DT Overview](#)

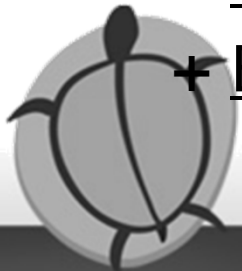
+ [VCP5-DT Exam Blueprint](#)

+ [VCP5-DT Mock Exam](#)

+ [FAQ](#)

+ [Desktop Certification Community](#)

+ [Exam Registration](#)



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# VCP5-DT PATHS

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- ✘ Basically one single path
- + May change in the future?



Certification requirements are subject to change and may not be retroactive to previous versions. Please regularly check Certification at [VMware.com](http://VMware.com) for updates.



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# VCP5-DT COURSES

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- ✘ Nothing mandatory
- ✘ Suggested courses
  - + VMware View: Install, Configure, Manage [V5.0]
  - + VMware View: Install, Configure, Manage [V5.1]
  - + Application Virtualization with VMware ThinApp
- ✘ Also some (free) courses on the Partner site
  - + Partner University
    - ✘ Desktop Virtualization Competency



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# VCP5-DT EXAM

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- ✘ VUE code VCP510-DT ENU
  - + No authorization
  - + Same price of VCP5-DV
  - + Same testing centers
- ✘ 85 questions in 90 minutes
  - + +30min in non English countries
- ✘ Mock exam is a good example of the final one



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# VCP5-DT BLUEPRINT

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- ✘ Filename with v1.1
  - + But formally v1.0 of 13 Feb 2012
- ✘ Several links are included
  - + Note that other material may be needed
- ✘ View 5.0 or 5.1 based?!
  - + Note that all links and references are to View 5.0
- ✘ Official reference
  - + [http://www.vmware.com/support/pubs/view\\_pubs.html](http://www.vmware.com/support/pubs/view_pubs.html)
  - + Use also the several white papers available for View



# VCP5-DT BLUEPRINT (UNOFFICIAL)

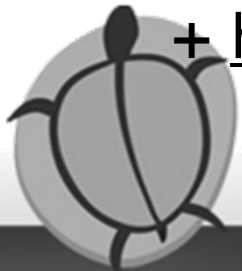
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## ✘ Blueprint with study notes

- + <http://speakvirtual.com/2012/05/07/vcp5-dt-blueprint-study-guide/>
- + <http://communities.vmware.com/message/2034762#2034762>
- + <http://it.lynries.net/blog/vcp4-dt-and-vcp5-dt-study-guide/>

## ✘ Limits & Min/Max

- + <http://myvirtualcloud.net/?p=2150>
- + <http://myvirtualcloud.net/?p=2455>



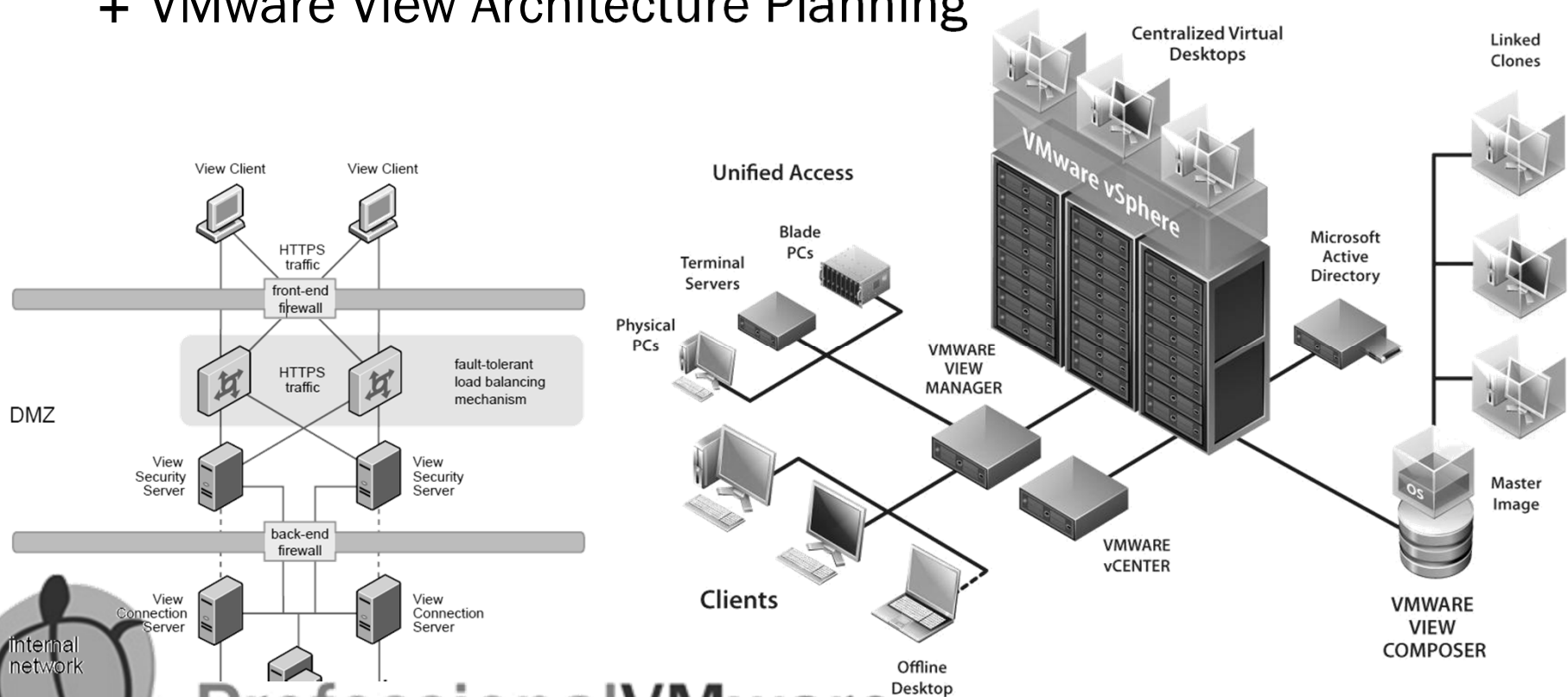
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# VCP5-DT SECTION 0

# SECTION 5

- ✘ View Architecture Overview
- + VMware View Architecture Planning



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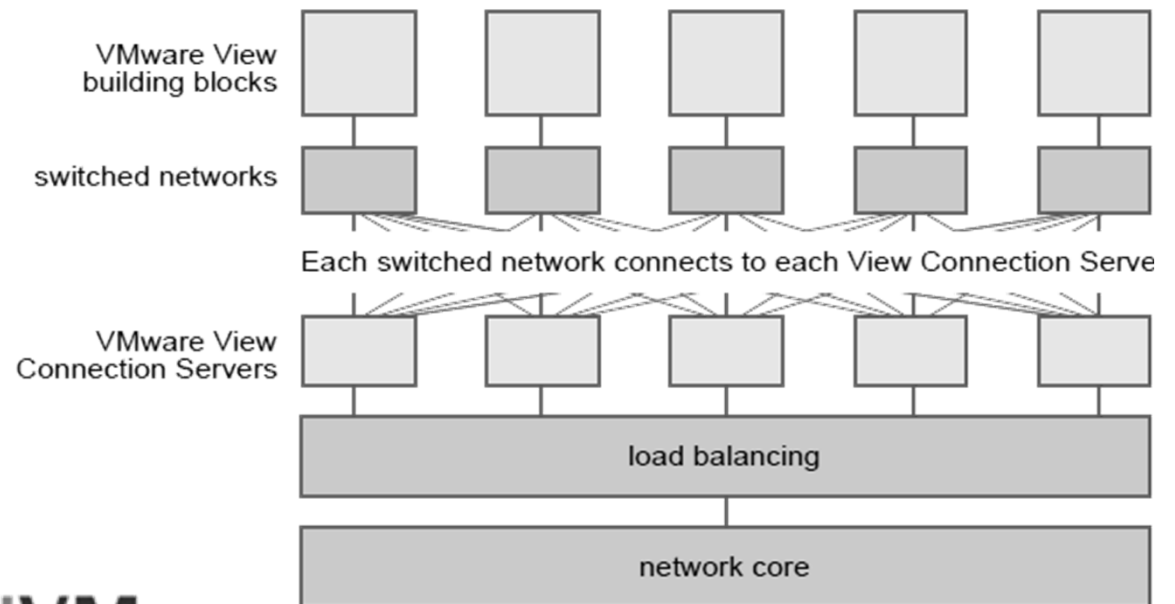
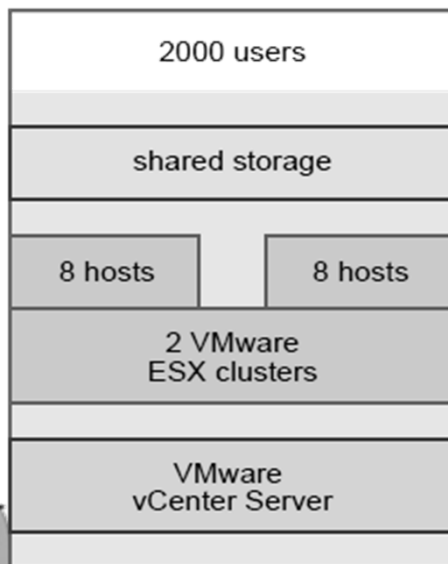
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# VCP5-DT SECTION 0

## ✘ Building block + VMware View Architecture Planning

**Table 4-7.** View Desktop Connections

Connection Servers per Deployment	Connection Type	Maximum Simultaneous Connections
1 Connection Server	Direct connection, RDP or PCoIP; Tunneled connection, RDP; PCoIP Secure Gateway connection	2,000
7 Connection Servers (5 + 2 spares)	Direct connection, RDP or PCoIP	10,000



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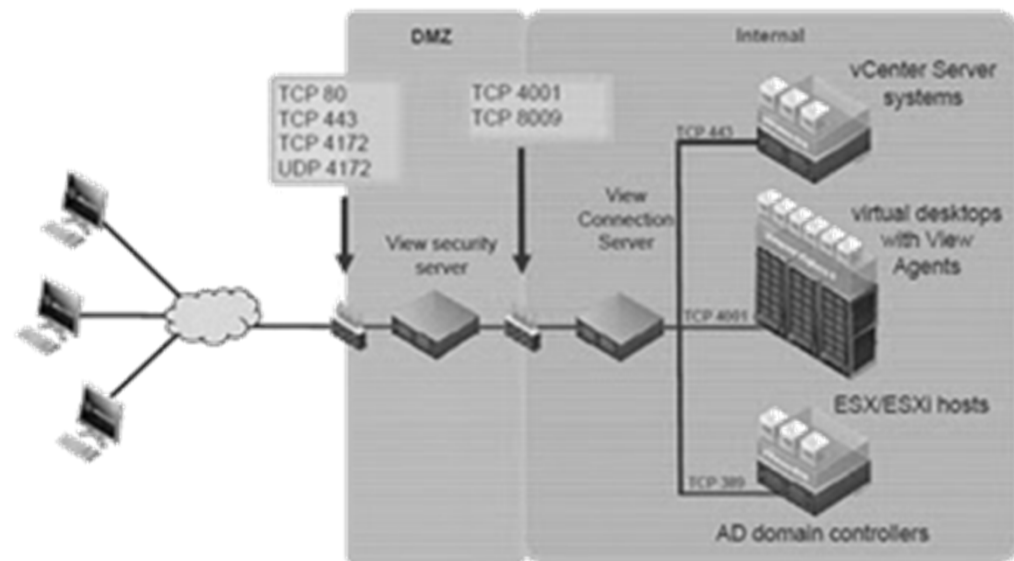
# VCP5-DT SECTION 0

# SECTION 5

## ✘ TCP/UDP ports

- + <http://ituda.com/vmware-view-5-0-tcp-and-udp-ports/>
- + <http://www.thatsmyview.net/2011/04/24/firewall-settings-for-a-vmware-view-environment/>
- + View Security Guide
- + View Architecture Planning

Firewall Ports for Connection Server Communications



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# VCP5-DT SECTION 0

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- ✘ VMware View Client requirements and functions
  - + VMware View Architecture Planning
  - + VMware View Installation Guide (Chapter 2)
  - + When PCoIP could be use and when must be used
  - + Guest OS requirements
  - + ...



# VCP5-DT SECTION 1

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- × Install View server components
  - + Objective 1.1
    - × Install View Composer
  - + Objective 1.2
    - × Install View Standard and Replica Connection Server(s)
  - + Objective 1.3
    - × Install View Transfer Server
  - + Objective 1.4
    - × Install View Security Server(s)
  - + Objective 1.5
    - × Prepare Active Directory for installation



# VCP5-DT OBJECTIVE 1.1

## ✘ Install View Composer

+ Identify minimum hardware and software requirements for installation

✘ It requires VMware View Premier Licensing to be used

✘ Big changes from View 5.0 to 5.1

**Table 1-4.** View Composer Hardware Requirements

Hardware Component	Required	Recommended
Processor	1.4 GHz 64-bit processor or faster and 2 CPUs Intel Itanium 2 processor for Itanium-based systems	2GHz or faster and 4 CPUs
Networking	One or more 10/100Mbps network interface cards (NICs)	1Gbps NICs
Memory	4GB RAM or higher	8GB RAM or higher for deployments of 50 or more View desktops
Disk space	40GB	60GB

**VIEW 5.1**

**IMPORTANT** The physical or virtual machine that hosts View Composer must use a static IP address.

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# VCP5-DT OBJECTIVE 1.1

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## ✘ Install View Composer

+ Identify minimum hardware and software requirements for installation

- ✘ On View 5.0 must be installed on vCenter Server

- ✘ Composer is now a 64bit service and require

  - ✘ Windows Server 2008 R2 (with or without SP1) Standard or Enterprise

- ✘ Supported Windows version for vCenter

  - ✘ Windows 2008 R2 Standard, Enterprise Base or SP1

  - ✘ For vCenter version see the View Connection Server requirements

- ✘ Support also the Linux version of VCVA (only View 5.1)



# VCP5-DT OBJECTIVE 1.1

## ✘ Install View Composer

### + Describe Composer database and connectivity

**Table 1-5.** Supported Database Servers for View Composer

Database	vCenter Server 5.0 U1 and later	vCenter Server 4.1 U2 and later	vCenter Server 4.0 U4 and later
Microsoft SQL Server 2005 (SP4), Standard, Enterprise, and Datacenter (32- and 64-bit)	Yes	Yes	Yes
Microsoft SQL Server 2008 Express (R2) (64-bit)	Yes	No	No
Microsoft SQL Server 2008 (SP2), Standard, Enterprise, and Datacenter (32- and 64-bit)	Yes	Yes	Yes
Microsoft SQL Server 2008 (R2), Standard and Enterprise (32- and 64-bit)	Yes	Yes	Yes
Oracle 10g Release 2, Standard, Standard ONE, and Enterprise [10.2.0.4] (32- and 64-bit)	Yes	Yes	Yes
Oracle 11g Release 2, Standard, Standard ONE, and Enterprise [11.2.0.1] with Patch 5 (32- and 64-bit)	Yes	Yes	Yes

**VIEW 5.1**



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# VCP5-DT OBJECTIVE 1.1

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## ✘ Install View Composer

### + Describe Composer database and connectivity

- ✘ Each instance of the View Composer service must have its own database
- ✘ View Composer Requires a database to store data
  - ✘ These Data include configuration settings including: vCenter Server Connections: Active Directory Connections, Linked-clone information such as deployed by View Composer, Replicas created by View Composer
- ✘ If the vCenter is an All-in-one assign more RAM to the vCenter
- ✘ Remember to provide the System DSN for View Composer
- ✘ See the specific DBMS notes on the Installation Guide



# VCP5-DT OBJECTIVE 1.1

---

## × Install View Composer

### + Describe Composer service and dependencies

- × VMware vCenter Server and AD dependencies

- × Composer service dependencies

  - \* HTTP, TCP/IP Protocol Driver, Windows Event Log

- × If the Windows firewall is turned on

  - \* make sure port 18443 is allowed as this port is used to communicate with the connection server

  - \* make sure that VMware Universal File Access (UFA) is not blocked

- × Storage vMotion is not supported for linked mode desktops



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# VCP5-DT OBJECTIVE 1.1

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## ✘ Install View Composer

- + Navigate View Composer installation wizard
  - ✘ DSN can be created during the installation
  - ✘ Database must be created manually
  - ✘ Remember the default port required for VMware View Composer
  - ✘ Certificate could be imported (for an upgrade)
- + For the CLI see the Installation Guide



# VCP5-DT OBJECTIVE 1.2

- ✘ Install View Standard and Replica Connection Server(s)
  - + Identify minimum hardware and software requirements for installation

**Table 1-1.** View Connection Server Hardware Requirements

Hardware Component	Required	Recommended
Processor	Pentium IV 2.0GHz processor or higher	4 CPUs
Networking	One or more 10/100Mbps network interface cards (NICs)	1Gbps NICs
Memory Windows Server 2008 64-bit	4GB RAM or higher	At least 10GB RAM for deployments of 50 or more View desktops

**VIEW 5.1**

These requirements also apply to replica and security server View Connection Server instances that you install for high availability or external access.

**IMPORTANT** The physical or virtual machine that hosts View Connection Server must use a static IP address.



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# VCP5-DT OBJECTIVE 1.2

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- ✘ Install View Standard and Replica Connection Server(s)
  - + Identify minimum hardware and software requirements for installation
    - ✘ Supported OS (Standard & Enterprise)
      - ✘ Windows Server R2 64bit (also SP1)
      - ✘ Windows Server R2 32bit (only View 5.0)
    - ✘ Active Directory version
      - ✘ Windows 2000 AD
      - ✘ Windows 2003 AD
      - ✘ Windows 2008 AD (and R2)
    - ✘ vSphere
      - ✘ vSphere 4.0 Update 4 or later (U3 for View 5.0)
      - ✘ vSphere 4.1 Update 2 or later (U1 for View 5.0)
      - ✘ vSphere 5.0 Update 1 or later (U0 for View 5.0)



## VCP5-DT OBJECTIVE 1.2

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### ✘ Install View Standard and Replica Connection Server(s)

#### + Identify required firewall rules

#### ✘ For Standard and Replica Server instance type only:

- ✘ TCP 4001 in, for JMS protocol
- ✘ TCP 4001 in, for JMSIR protocol
- ✘ TCP 8009 in, for AJP13 protocol

#### ✘ For Standard, replica and security server:

- ✘ TCP 80 in, for HTTP
- ✘ TCP 443 in, for HTTPS
- ✘ UDP 4172 both directions for PCoIP





## VCP5-DT OBJECTIVE 1.2

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### ✘ Install View Standard and Replica Connection Server(s)

+ Navigate the View Connection Server installation wizard

✘ Windows Firewall rules could be generated automatically

+ For the CLI see the Installation Guide



# VCP5-DT OBJECTIVE 1.3

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## ✘ Install View Transfer Server

### + Identify minimum hardware and software requirements for installation

- ✘ View Transfer Server must be installed as a Windows application in a VM
- ✘ The Transfer Server VM must be managed by the same vCenter Server instance as the local desktops that it will manage
- ✘ It does not have to be part of a domain
- ✘ It must use a static IP address
- ✘ View Transfer Server must be configured with an “LSI Logic Parallel SCSI controller”
  - ✘ On Windows Server 2008 VMs, the “LSI Logic SAS controller” is selected by default, you must change this to the “LSI Logic Parallel SCSI controller” before you install the operating system
- ✘ OS type are the same for View Connection Server
  - ✘ Note that View 5.0 support also Windows Server 2003 R2 SP2, 32bit
- ✘ 2 vCPU’s should be configured for the Transfer Server VM.



# VCP5-DT OBJECTIVE 1.3

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- ✘ Install View Transfer Server
  - + Identify required firewall rules
    - × 80 in, HTTP
    - × 443 in, HTTPs



# VCP5-DT OBJECTIVE 1.3

---

## ✘ Install View Transfer Server

- + Navigate the View Connection Server installation wizard

  - ✘ Windows Firewall rules could be generated automatically

- + For the CLI see the Installation Guide



# VCP5-DT OBJECTIVE 1.4

---

- × Install View Security Server(s)
  - + Identify minimum hardware and software requirements for installation
    - × Same of the connection server requirements
    - × There were some difference in View 4.6



# VCP5-DT OBJECTIVE 1.4

---

- ✘ Install View Security Server(s)
  - + Identify required firewall rules
    - ✘ Same as a connection server
      - ✘ TCP 80 in, for HTTP
      - ✘ TCP 443 in, for HTTPS
      - ✘ UDP 4172 both directions for PCoIP



# VCP5-DT OBJECTIVE 1.4

---

## ✘ Install View Security Server(s)

### + Identify security server pairing password

- ✘ Each security server is paired with a **single** connection server
- ✘ To configure a pairing password, in View Administrator select
  - ✘ View Configuration->Servers-> (*select connection server instance*)
  - ✘ More Commands->Specify Security Server Pairing Password



# VCP5-DT OBJECTIVE 1.4

---

## ✘ Install View Security Server(s)

+ Navigate the View Connection Server installation wizard

✘ Windows Firewall rules could be generated automatically

✘ Pairing is required also during an upgrade

✘ Basically it's just a reinstallation

✘ Know the difference between

✘ External URL - <https://view.example.com:443>

✘ PCoIP External URL - 100.200.300.400:4172

✘ For the CLI see the Installation Guide



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# VCP5-DT OBJECTIVE 1.5

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- × Prepare Active Directory for installation
  - + Describe characteristics of required Active Directory domain accounts (e.g., permissions)
    - × View Desktop User accounts
      - \* must be members of the Remote Desktop Users group or a group enabled to RDP
      - \* Administrator privileges are not required
    - × vCenter Server
      - \* must be in the same domain as the Connection Server or in a trusted domain
      - \* if you use View Composer, you must add the user account to the local Administrators group on the vCenter Server computer
    - × View Composer
      - \* requires this account to join linked-clone desktops to your AD domain
        - × it requires to create and remove computer objects in a specified AD container
      - \* should not be an administrative account: give this account the minimum privileges
    - × Required permissions
      - \* See Chapter 5 of View Administrator Guide



# VCP5-DT OBJECTIVE 1.5

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- ✘ Prepare Active Directory for installation
  - + Describe characteristics of required Active Directory groups
    - ✘ You should create groups for different types of View users in Active Directory
      - ✘ For example, you can create a group called VMware View Users for your View desktop users and another group called VMware View Administrators for users that will administer View desktops
    - ✘ For View entitlements, groups must be authorized to RDP
      - ✘ Expand the **Computer Configuration** section of a GPO and open **Windows Settings\Security Settings**
      - ✘ Right-click **Restricted Groups**, select **Add Group**, and add the **Remote Desktop Users** group



# VCP5-DT OBJECTIVE 1.5

## ✘ Prepare Active Directory for installation

### + Identify and describe the GPO template files

- ✘ ADM template files are in “install\_directory\VMware\VMware View\Server\extras\GroupPolicyFiles” on a View Connection Server

**Table 8-3.** View ADM Template Files

Template Name	Template File	Description
VMware View Agent Configuration	vdm_agent.adm	Contains policy settings related to the authentication and environmental components of View Agent.
VMware View Client Configuration	vdm_client.adm	Contains policy settings related to View Client configuration. Clients that connect from outside the View Connection Server host domain are not affected by policies applied to View Client.
VMware View Server Configuration	vdm_server.adm	Contains policy settings related to View Connection Server.
VMware View Common Configuration	vdm_common.adm	Contains policy settings that are common to all View components.
VMware View PCoIP Session Variables	pcoip.adm	Contains policy settings related to the PCoIP display protocol.
VMware View Persona Management Configuration	viewPM.adm	Contains policy settings related to View Persona Management. See “View Persona Management Group Policy Settings,” on page 185.



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# VCP5-DT OBJECTIVE 1.5

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- × Prepare Active Directory for installation
  - + Describe Organizational Units (OUs) for machine accounts and kiosk mode client accounts
    - × A client in kiosk mode is a thin client or a locked-down PC that runs View Client to connect automatically to a View Connection Server instance and launch a remote desktop session
      - ★ Authentication is MAC Addresses based
    - × You should create separate OU's and groups for kiosk mode client accounts
    - × A manual command is needed:
      - ★ vdmadmin -Q -enable -s servername
    - × See also:
      - ★ VMware View Administrator Guide
      - ★ <http://www.vmware.com/files/pdf/VMware-View-KioskMode-WP-EN.pdf>



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# VCP5-DT OBJECTIVE 1.5

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- × Prepare Active Directory for installation
  - + Verify trust relationships
    - × The View Connection Server must not be a domain controller
    - × You must join each View Connection Server to an Active Directory domain
      - ★ in the same domain as the View Connection Server host
      - ★ in a domain that has a two-way trust relationship with the View Connection Server host's domain
    - × Users are authenticated against Active Directory for the View Connection Server host's domain and against any additional user domains with which a trust agreement exists
    - × Because security servers do not access any authentication repositories, including Active Directory, they do not need to reside in an Active Directory domain



# LINKS AND REFERENCES

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## × New VMware Certifications

- + <http://vinfrastructure.it/en/2012/10/vbrownbag-tech-talks-barcelona-new-vmware-certifications/>
- + <http://vinfrastructure.it/en/2012/09/report-from-vmworld-us-2012-new-certifications/>

## × VCP5 Resources

- + <http://vinfrastructure.it/en/2012/05/vcp5-dt-study-guides/>
- + <http://vinfrastructure.it/en/certifications-on-virtualization/vmware-dt/vcp5-dt/>



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