Pros and Cons of virtualizing vCenter and View Connection server

I have been asked this question many a times and I want to express my views here.

vCenter Server System Hardware

Hardware requirements (can change between releases):

- CPU size – Two 2.0GHz or faster CPUs
- Memory size – At least 3GB of memory:
- Disk size – At least 2GB of storage:
- Networking – A gigabit connection is recommended.

vCenter Server system performance recommendations		
Up to 50 hosts/250 powered-on virtual machines	2 CPUs	4GB memory
Up to 200 hosts/2,000 powered-on virtual machines	4 CPUs	4GB memory
Up to 300 hosts/3,000 powered-on virtual machines	4 CPUs	8GB memory

Type of Virtual vCenter Server Machine

Design decision: Should the vCenter Server system be a physical machine or a virtual machine?

- The VMware best practice is to use a virtual machine.
- If the key stakeholders insist on a physical machine, then list it as a risk.

Virtual machine	Physical machine
The vCenter Server system can be restarted in a VMware HA cluster or by VMware vCenter Server Heartbeat. (VMware Fault Tolerance [FT] supports only single-CPU virtual machines.)	To provide availability, you must purchase and use additional software like VMware vCenter Server Heartbeat or Microsoft Cluster Service (MSCS).
A virtual machine CPU and memory resources can be easily resized. The vCenter Server system also benefits from DRS cluster workload balancing.	You must properly size the physical machine resources because that is all there are.
You can easily back up or re-create a virtual machine as necessary.	You must have a separate system and use imaging software to take a snapshot of a physical machine.

vCenter Server System Redundancy

Design decision: How will you provide availability for the vCenter Server system?

The choice depends on such factors as:

- The amount of downtime that can be tolerated
- The desired level of failover automation
- The cost of the availability method

Manual configuration and failover:

- Creating a redundant physical or virtual server that can be powered on manually during failure might initially have a lower cost, but it requires more setup and manual administration over time.

– Manual failover can take several minutes or longer.
– This method works for either physical or virtual vCenter Server systems.

Automated Failover

VMware HA failover:

- If downtime of a minute or two can be tolerated, protect the vCenter Server system with VMware HA.

– This method works only for virtual vCenter Server systems.
– This method is preferred to manually creating a redundant, powered-off clone and performing a manual failover.

- If the VMware HA cluster is also enabled for DRS, disable migration for the vCenter Server virtual machine.

– If the vCenter Server virtual machine were to go down unexpectedly, disabling DRS migration prevents the need to search manually for the host on which it was last running.

Software Solutions

- Automated software solutions:

– If downtime of more than a minute or two cannot be tolerated, protect the vCenter Server system with another product like vCenter Server Heartbeat or MSCS.

– Both require the cost of additional software licenses.
– vCenter Server Heartbeat is a simpler solution and does not requires MSCS administration skills.
– For a list of the benefits of vCenter Server Heartbeat and a comparison to other cluster solutions, see the vCenter Server Heartbeat Quick Start Guide at http://www.vmware.com/support/pubs/heartbeat_pubs.html.
– For information about clustering vCenter Server with MSCS, see VMware knowledge base article 1010550 at http://kb.vmware.com/kb/1010550.

View Connection Server Considerations

1. First part of design process is to determine number and location of connection servers.
2. Ideally, deploy as virtual machines.
3. Include a minimum of two connection servers, for failover and redundancy.
4. Maximum of five connection servers per group is supported
5. Attach to a secure internal network, inside corporate firewall
6. Should be part of same AD forest as authenticating users

An early part of the View Manager Design process is to determine the number of View connection servers. Each view connection servers provisioned with the minimum supported system specifications should be able to accommodate connectivity up to 1000 users. Ideally, view connection servers should be deployed as virtual machines, for ease of management. You should include a minimum of two connection servers in your design for failover and redundancy purposes and be aware that there is a maximum of five connection server per replication group.

P.S: I have taken some points from VMware Design Workshop Training (http://mylearn.vmware.com/mgrReg/courses.cfm?ui=www_cert&a=one&id_subject=13754)