

## **VMWARE ACADEMY PROGRAM TERMS & CONDITIONS**

These Terms & Conditions and any Exhibits hereto (together, "Agreement") govern VMware Academy Partner's participation in the VMware Academy Program and are entered into as of the Effective Date by and between VMware International Limited, a company organized and existing under the laws of Ireland, with its principal place of business at Parnell House, Barrack Square, Ballincollig, County Cork, Ireland ("VMware"), and VMware Academy Partner. In this Agreement, "VMware Academy Partner" or "VAP" means the institution entity identified in the "Name of Institution" field of the online registration form, and "Effective Date" means the date that VMware authorizes VMware Academy Partner to join the VMware Academy Program.

WHEREAS, VAP desires to offer certain VMware training courses ("VMware Authorized Courses") and training courseware ("VMware Authorized Courseware"); and

WHEREAS, VMware desires to supply training criteria and courseware to VAP;

NOW, therefore, in consideration of the mutual promises contained herein, the parties agree as follows:

### **1. VAP OBLIGATIONS.**

- 1.1 VAP shall purchase the VMware Authorized Courseware for the VMware Authorized Courses that they intend to deliver, as set forth in Exhibit A.
- 1.2 VAP agrees that it will employ at least one (1) VMware Certified Instructor ("VCI") at all times during the term of this Agreement, and will register said VCI's name and certification number with VMware. Requirements for VCI are described in Exhibit B attached hereto, provided that VMware may change such requirements from time to time at its sole discretion.
- 1.3 VAP agrees to deliver the VMware Authorized Courses described in Exhibit A:
  - Using VMware Authorized Courseware only. VAP shall use best efforts to ensure that it does not resell VMware Authorized Courseware to individuals who are not enrolled in a VMware Authorized Course.
  - VAPs shall not develop or deliver training courses on VMware products that directly compete with those offered by VMware.
  - By a VCI who has obtained a written acknowledgment from VMware that verifies that all VCI requirements, described in Exhibit B, have been met.
  - At the authorized location set forth on the online registration form, after securing the written approval of an authorized representative of VMware's Education Services department of the facilities and equipment at that location. Said authorized location cannot be located within the United States of America.
  - At additional authorized locations, after securing the written approval of an authorized representative of VMware's Education Services department of the facilities and equipment at each additional location. Said additional authorized locations cannot be located within the United States of America.

- VAP shall only deliver VMware Authorized Courses according to its academic calendar. Furthermore, in no event shall VAP deliver a VMware Authorized Course in the same timeframe as the VMware Education Service's offerings.

- 1.4 VAP shall provide a classroom and appropriate computing environment for each VMware Authorized Course it delivers, meeting VMware's published classroom configuration, hardware and software requirements for each VMware Authorized Course. Such requirements may be revised from time-to-time by VMware. The current classroom, hardware and software requirements are set forth in Exhibit C.
- 1.5 VAP agrees that VMware's representative(s) may audit the classroom configuration and delivery of training during VAP's normal business hours, without prior notice.
- 1.6 VAP agrees that it will use best efforts to ensure all students complete the VMware online courseware and instructor evaluation forms (collectively, the "Evaluation Forms") at the conclusion of each VMware Authorized Course
- 1.7 VAP shall defend, indemnify, and hold harmless VMware from and against all liabilities, claims, costs, fines, and damages of any type (including attorneys' fees) arising out of or in any way related to VAP's delivery of services and/or representations made by VAP to its students.

2. **VMWARE OBLIGATIONS.** During the term and pursuant to the terms of this Agreement, VMware undertakes the following obligations to VAP:

- 2.1 VMware will supply VAP with one (1) Not for Resale ("NFR") version of each of the VMware software products described in Exhibit A, solely for internal use in accordance with the terms of the VMware end-user license agreement ("EULA") accompanying the product.
- 2.2 VMware shall use commercially reasonable effort to provide administrative support to VAP. VAP may send technical questions to the VMware forum Web site located at <http://communities.vmware.com/index.jspa> following VAP's registration into the VMware Academy Program. VAP staff and instructors are advised to search the Q&A section of said site for answers to their questions prior to submitting a request.
- 2.3 VMware will list VAP's name and uniform resource locator (URL) on VMware's Web site under "VMware Academy Program Centers".

3. **COPYRIGHTS AND TRADEMARKS.**

- 3.1 VAP understands and agrees that VMware owns all right, title and interest, including, without limitation, the copyright to the VMware Authorized Courseware. VAP agrees that it shall not remove or obscure the notice of copyright appearing in each published copy of the VMware Authorized Courseware. VAP shall immediately notify VMware of any infringing copy or reproduction of VMware Authorized Courseware it may discover, and VAP shall not distribute or assist in distributing such infringing copy or reproduction.
- 3.2 During the term of this Agreement, and provided VAP complies with the terms and conditions of this Agreement, VAP shall have the right to identify itself as a VMware Academy Partner.
- 3.3 During the term of this Agreement, VAP may refer to VMware products using the VMware product trademarks in compliance with VMware's published trademark usage guidelines located at [http://www.vmware.com/files/pdf/VMware\\_Logo\\_Usage\\_and\\_Trademark\\_Guidelines\\_Q307.pdf](http://www.vmware.com/files/pdf/VMware_Logo_Usage_and_Trademark_Guidelines_Q307.pdf)

("Guidelines"), provided the reference is not misleading and does not indicate or imply VMware's endorsement, testing, or approval of any other product or of any other service offered by VAP. All such VMware trademarks shall bear the designation "TM" or the designation "®", as specified by VMware in the Guidelines. VAP shall obtain VMware's written approval prior to the commencement of any other use of a VMware trademark or trade name. VMware reserves the right to amend any VMware trademark, service mark or logo. VAP agrees to ensure that its use of any such mark and/or logo is amended accordingly. VAP shall not use any VMware service mark during the term of this Agreement or thereafter. All goodwill and reputation which accrues to any marks of VMware in the course of VAP's use of such marks hereunder shall automatically vest in VMware without any separate or additional consideration of any kind to VAP. VAP shall not adopt, use, register, make application or attempt to register any acronym, trademark, service mark, logo, trade name or other marketing name of VMware or any confusingly similar mark, URL, Internet domain name, or symbol as part of its own name or the name of any of its affiliates or the names of any products it markets.

- 3.4 VAP agrees that VMware may reference VAP as a VMware Academy Partner, subject to VAP's trademark and logo usage guidelines provided by VAP.

#### 4. **CONFIDENTIALITY.**

- 4.1 The term "Confidential Information" means any information or materials provided by one party to the other party which are in tangible form and labeled "Confidential" or the like, or, if disclosed orally, are identified as being confidential at the time of disclosure and, within two (2) weeks thereafter, are summarized, appropriately labeled and provided in tangible form. Notwithstanding the foregoing marking requirements, the terms and conditions of this Agreement (including, without limitation, all fees and other pricing information), and VMware instructor training materials and instructor notes shall be deemed Confidential Information of VMware, whether or not reduced to writing or marked confidential.
- 4.2 Each party shall treat as confidential all Confidential Information of the other party and shall not use such Confidential Information except to exercise its rights and perform its obligations under this Agreement. Without limiting the foregoing, each of the parties shall use at least the same degree of care it uses to prevent the disclosure of its own confidential information of like importance, but in no event less than reasonable care, to prevent the disclosure of Confidential Information of the other party.
- 4.3 Neither party shall disclose the Confidential Information of the other party to any third party without the prior written consent of the other party. Notwithstanding the foregoing, each party may disclose the Confidential Information of the other party without the prior written consent of the other party: (a) if the receiving party is requested or required to disclose any of the disclosing party's Confidential Information under a subpoena, court order, statute, law, rule, regulation or other similar requirement (a "Legal Requirement"); (b) to legal counsel of the parties; (c) in confidence, to accountants, banks, and financing sources and their advisors; (d) in connection with the enforcement of this Agreement or rights under this Agreement; or (e) in confidence, in connection with an actual or proposed merger, acquisition, or similar transaction. If the receiving party is requested or required to disclose any of the disclosing party's Confidential Information in connection with a Legal Requirement, the receiving party will, to the extent not precluded by law, provide prompt written notice of such Legal Requirement to the disclosing party so that the disclosing party may seek an appropriate protective order or other appropriate remedy or waive compliance with the provisions of this Agreement.

- 4.4 Neither party shall have an obligation to maintain the confidentiality of information that: (a) was rightfully known to the receiving party prior to receipt of such confidential information from the disclosing party; (b) is or becomes generally known to the public through no fault of the receiving party; (c) is rightfully received from a third party without a duty of confidentiality; (d) is independently developed by the receiving party without breach of any confidentiality obligations; or (e) is or was disclosed by the disclosing party generally without restriction on disclosure.
- 4.5 Each party's obligation under this Section shall survive the expiration or earlier termination of this Agreement and shall extend to the earlier of such time as the Confidential Information protected hereby falls into the public domain through no fault of the obligated party or three (3) years following its disclosure.

5. **TERM AND TERMINATION.**

- 5.1 This Agreement shall take effect on the Effective Date, and unless terminated earlier as provided herein, shall continue for a period of twelve (12) months from the Effective Date. Thereafter, this Agreement shall automatically renew for successive twelve (12) month periods provided VAP remains in compliance with the requirements to maintain VCI status as set forth in this Agreement. Either party shall have the right to terminate this Agreement at any time, without cause, on the giving of thirty (30) days prior written notice. Neither party shall be responsible to the other for any costs or damages resulting from the termination of this Agreement.
- 5.2 Upon expiration or termination of this Agreement, VAP shall immediately: (a) cease offering and delivering VMware Authorized Courses or any other courses regarding VMware software products or services; (b) cease use of the VMware Academy Partner name; (c) cease to represent itself as a VMware Academy Partner; and (d) cease use of VMware's trademarks and logos. Termination or expiration of this Agreement shall not relieve either party of obligations incurred prior to such termination or expiration.

6. **WARRANTIES/LIMITED WARRANTIES.**

- 6.1 VMware warrants the VMware software products provided to VAP pursuant to Section 2.1 on the terms set out in the EULA accompanying each such VMware software product.
- 6.2 VAP warrants that it shall deliver the VMware Authorized Courses in a professional and workmanlike manner and shall conform to standards of the industry.
- 6.3 THE FOREGOING LIMITED WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES AND CONDITIONS, EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE, INCLUDING ALL IMPLIED WARRANTIES OF SATISFACTORY QUALITY, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT.

7. **LIMITATION OF LIABILITY.**

- 7.1 EXCEPT FOR A BREACH OF SECTION 4 (CONFIDENTIALITY), AND WITHOUT LIMITING VAP'S INDEMNIFICATION OBLIGATIONS HEREIN, NEITHER VMWARE NOR VAP SHALL HAVE LIABILITY TO THE OTHER FOR ANY SPECIAL, CONSEQUENTIAL, EXEMPLARY, INCIDENTAL, OR INDIRECT DAMAGES (INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, REVENUES, DATA AND/OR USE), EVEN IF ADVISED OF THE POSSIBILITY THEREOF. BECAUSE SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT

APPLY. EXCEPT AS OTHERWISE PROVIDED BY LAW, THE ENTIRE LIABILITY OF VMWARE, AND THE SOLE AND EXCLUSIVE REMEDY OF VAP, FOR ANY CLAIM WHATSOEVER, SHALL, IN THE AGGREGATE, NOT EXCEED THE AMOUNT PAID BY VAP TO VMWARE HEREUNDER.

7.2 NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THIS AGREEMENT, NOTHING IN THIS AGREEMENT SHALL OPERATE SO AS TO LIMIT OR EXCLUDE THE LIABILITY OF EITHER PARTY FOR: (I) NEGLIGENCE IN RESPECT OF DEATH OR PERSONAL INJURY; (II) FOR FRAUDULENT PRE-CONTRACTUAL MISREPRESENTATION; OR (III) ANY OTHER LIABILITY WHICH CANNOT BE EXCLUDED BY LAW.

## 8. **GENERAL.**

8.1 Except as expressly granted herein, no license regarding the use of VMware's copyrights, patents, trademarks or trade names is granted or will be implied.

8.2 If any provision in this Agreement is found to be invalid, unlawful or unenforceable, the remaining terms will continue to be valid and enforceable to the fullest extent permitted by law.

8.3 Any waiver of the provisions of this Agreement or of a party's rights or remedies under this Agreement must be in writing to be effective. Failure or delay by a party to enforce the provisions of this Agreement or its rights or remedies at any time, will not be construed and will not be deemed to be a waiver of such party's rights under this Agreement and will not in any way affect the validity of the whole or any part of this Agreement or prejudice such party's right to take subsequent action.

8.4 Neither this Agreement, nor any terms and conditions contained herein, shall be construed as creating a partnership, joint venture, franchise or agency relationship between VMware and VAP. VAP is an independent business and agrees that it shall not make any representation that might indicate to any third party that VAP has authority to act on VMware's behalf or to bind VMware to any representation or warranty. VAP shall not hold itself out as an agent of VMware, or attempt to bind VMware to any third-party agreement.

8.5 Neither party will incur any liability to the other party on account of any loss or damage resulting from any delay or failure to perform all or any part of this Agreement if such delay or failure is caused, in whole or in part, by events, occurrences, or causes beyond the control and without negligence of the parties. Such events, occurrences, or causes will include, without limitation, acts of God, strikes, lockouts, riots, acts of war, earthquake, fire and explosions, but the inability to meet financial obligations is expressly excluded.

8.6 This Agreement and any rights or obligations of VAP under it may not be assigned, subcontracted or otherwise transferred by VAP, in whole or in part, whether voluntary or by operation of law, including by way of sale of assets, merger or consolidation, without prior written consent from VMware, which consent will not be unreasonably withheld. Subject to the foregoing, this Agreement will be binding upon and will inure to the benefit of the parties and their respective successors and assigns.

8.7 Any notice required or permitted under the terms of this Agreement or required by law must be in writing and must be delivered either: (a) in person, (b) by first class registered mail, or air mail, as appropriate, posted and fully prepaid to the appropriate address as set forth in this section, (c) via confirmed facsimile, or (d) by reputable overnight courier service to the address set forth in this

section. Notices will be considered provided at the earlier of the time of receipt or five (5) business days after being sent. Appropriate addresses shall be, for VMware: the address set forth in the preamble to this Agreement; and for VAP, VAP's business address as initially identified in the online registration form and then-currently on file with VMware, sent to the attention of "Legal Counsel" with a copy to the contact initially identified on the online registration form and then-currently on file with VMware.

- 8.8 This Agreement will be governed by the laws of England and Wales, without regard to conflict of law principles. The parties hereby consent to the exclusive jurisdiction of English courts for resolution of any disputes arising out of this Agreement.
- 8.9 If either VMware or VAP employs attorneys to enforce any rights arising out of or relating to this Agreement, the prevailing party shall be entitled to recover costs and reasonable attorneys' fees.
- 8.10 VAP may not export or re-export any VMware software, accompanying documentation, or the VMware Authorized Courseware (collectively, "VMware Materials") provided to VAP hereunder except in compliance with the United States Export Administration Act and the related rules and regulations and similar non-U.S. government restrictions, if applicable. The VMware Materials are deemed to be "commercial computer software" and "commercial computer software documentation", respectively, pursuant to DFAR Section 227.7202 and FAR Section 12.212(b), as applicable. Any use, modification, reproduction, release, performing, displaying or disclosing of the VMware Materials by the U.S. Government shall be governed solely by the terms of this Agreement.
- 8.11 This Agreement may be executed in counterparts, each of which so executed will be deemed to be an original and such counterparts together will constitute one and the same agreement. This Agreement may be executed and delivered by facsimile and the parties agree that such facsimile execution and delivery shall have the same force and effect as delivery of an original document with original signatures, and that each party may use such facsimile signatures as evidence of the execution and delivery of this Agreement by all parties to the same extent that an original signature could be used.
- 8.12 This Agreement (including the Exhibits) constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes all previous communications, representations, understandings and agreements, either oral or written. No terms, provisions or conditions of any purchase order, acknowledgement or other business form that VAP may issue to VMware in connection with this Agreement will have any effect on, or otherwise modify, the rights, duties or obligations of the parties under this Agreement, regardless of any failure of VMware to object to such terms, provisions or conditions. VMware hereby rejects any such additional or conflicting terms and conditions on any VAP purchase order, acknowledgement or other business form.
- 8.13 This Agreement shall not be modified except by a written agreement dated subsequent to the Effective Date of this Agreement and signed on behalf of VAP and VMware by their respective duly authorized representatives.

END OF AGREEMENT

**EXHIBIT A**  
**AUTHORIZED LOCATION, AND VMWARE AUTHORIZED**  
**COURSES AND COURSEWARE FEES**

**VMware Authorized Courses:**

Qualifying Courses (required for VCP certification):

VMware Infrastructure 3: Install & Configure V3.5

VMware Infrastructure 3: Deploy, Secure & Analyze V3.5

Non-Qualifying Courses (not required for VCP certification):

VMware Infrastructure 3: Tour V3.5

VMware Infrastructure 3: Skills for Operators V3.5

Notes:

- VMware Authorized Courses are subject to change. The complete list of VMware Authorized Courses that VAP may deliver depends on the authorization of this course for VAP delivery and the capabilities of VAP's VCIs. Written requests to add courses to VAP's authorized list are required to be sent to VMware Authorized representative. A response will be generated within ten (10) business days.

**VMware Courseware Fees:**

Courseware fees are subject to change. Please consult VMware's authorized print vendor's pricing guide when ordering. Courseware fees are also subject to shipping costs.

**EXHIBIT B**  
**REQUIREMENTS FOR VMWARE CERTIFIED INSTRUCTORS**  
**OF VIRTUAL INFRASTRUCTURE 3 COURSES**

- Requirements for VMware Certified Instructors are subject to change. The details below list the initial requirements only. Any modifications and additions to the requirements will be sent to the VAP by the VMware VAP manager from time to time.

A VMware Certified Instructor for VMware Infrastructure 3: Install & Configure V3.5 must:

- Complete and actively participate in the VMware Infrastructure 3: Install & Configure V3.5
- Demonstrate superior knowledge of VMware products by passing the VMware Certified Professional examination annually, with a score of at least 85%.
- Complete and actively participate in a VMware-authorized Co Teach/Train-the-Trainer session for VMware Infrastructure 3: Install & Configure V3.5 class, unless granted an exception in writing by an authorized representative of VMware's Education Services department. Only VMware Certified Professionals will be allowed to attend these sessions.
- Deliver each VMware course to the satisfaction of a VCI selected by VMware.
- Strongly consider the recommendation of VMware that an approved instructional methods course be attended, or an approved industry trainer certification earned.

A VMware Certified Instructor for VMware Infrastructure 3: Deploy, Secure & Analyze V3.5 must:

- Complete and actively participate in the VMware Infrastructure 3: Install & Configure V3.5
- Complete and actively participate in the VMware Infrastructure 3: Deploy, Secure & Analyze V3.5
- Demonstrate superior knowledge of VMware products by passing the VMware Certified Professional examination annually, with a score of at least 85%.
- Complete and actively participate in a VMware-authorized Co Teach/Train-the-Trainer session for VMware Infrastructure 3: Install & Configure V3.5 class, unless granted an exception in writing by an authorized representative of VMware's Education Services department. Only VMware Certified Professionals will be allowed to attend these sessions.
- Deliver each VMware course to the satisfaction of a VCI selected by VMware.
- Strongly consider the recommendation of VMware that an approved instructional methods course be attended, or an approved industry trainer certification earned.

A VMware Certified Instructor for VMware Infrastructure 3: Skills for Operators must:

- Complete and actively participate in the VMware Infrastructure 3: Install & Configure V3.5
- Complete and actively participate in the VMware Infrastructure 3: Skills for Operators V3.5
- Demonstrate superior knowledge of VMware products by passing the VMware Certified Professional examination annually, with a score of at least 85%.
- Complete and actively participate in a VMware-authorized Co Teach/Train-the-Trainer session for VMware Infrastructure 3: Install & Configure V3.5 class, unless granted an exception in writing by an authorized representative of VMware's Education Services department. Only VMware Certified Professionals will be allowed to attend these sessions.
- Deliver each VMware course to the satisfaction of a VCI selected by VMware.
- Strongly consider the recommendation of VMware that an approved instructional methods course be attended, or an approved industry trainer certification earned.

## EXHIBIT C

### CLASSROOM, HARDWARE, AND SOFTWARE REQUIREMENTS

- Requirements for Classroom, Hardware and Software requirements are subject to change. The details below list the initial requirements only. Any modifications and additions to the requirements will be sent to the VAP by the VMware VAP manager from time to time.

#### Facilities and Equipment Needs to Host: VMware Infrastructure 3: Install and Configure V3.5

##### *Classroom Computer and Network Configuration*

To host a VI 3 class, the classroom facility should provide:

- A projection system to which the instructor's laptop computer can be connected (the instructor will bring his or her own laptop),
- An Ethernet network to which the instructor's laptop can be connected and an IP Address.
- Whiteboards and/or flip charts, with markers and erasers.
- To administer virtual machines running on ESX Server, **each student** must have:
  - Processor 266MHz or higher Intel or AMD x86 processor (500MHz recommended)
  - Memory 256MB RAM minimum, 512MB recommended.
  - Disk Storage 150MB free disk space required for basic installation. You must have 55MB free on the destination drive for installation of the program, and you must have 100MB free on the drive containing your %temp% directory.
  - Networking 10/100 Ethernet adapter (Gigabit recommended).
  - Microsoft Windows 2000 Pro SP4, Windows 2000 Server SP4, Windows XP Pro (at any SP level), Windows 2003 (all releases except 64 bit) and configured with:
    - Internet Explorer 6.0 or higher, Netscape Navigator 7.0, Mozilla 1.X, Firefox 1.0.7 and higher.
  - The Virtual Infrastructure Client requires the following framework to operate:
    - ! .NET framework 1.1 (included in installation if required)

All student machines must be set up with the same operating system (including distribution). For example, all student machines should be set up with one type of Windows operating system, such as Microsoft Windows XP. Unless VMware's Education Services department approves an exception, the classroom network environment must provide World Wide Web access for both students and instructor (usually on TCP/IP ports 80 and 443).

##### *Classroom Servers not Provided by VMware*

Most VI classes use one multi-CPU x86-architecture server for each pair of students. These servers must be among those listed in the VMware ESX Server Systems Compatibility Guide: [http://www.vmware.com/pdf/vi3\\_systems\\_guide.pdf](http://www.vmware.com/pdf/vi3_systems_guide.pdf).

It is recommended that there are an even number of servers to accommodate the labs. The lab documentation will assume even numbers of servers.

##### *Server Requirements*

Each server must have:

- 2 or more Intel® Xeon and above, or AMD Opteron (32\_bit mode) or Intel® Viiv or AMD A64 x2 dual\_core processors, each with
  - Clock speed of 1.6 GHz or faster;
- A SCSI or SCSI-RAID controller supported by ESX Server, as listed in the VMware ESX Server I/O Compatibility Guide: [http://www.vmware.com/pdf/vi3\\_io\\_guide.pdf](http://www.vmware.com/pdf/vi3_io_guide.pdf)
- 36GB or more of local storage accessible through the SCSI controller (72 GB is preferred)
- 2GB or more of RAM
- 1 Gigabit-speed Ethernet Network Interface Card (NIC), Connected to a Gigabit-speed Ethernet switch shared among all servers (referred to as the management network), and
- 2 or more Ethernet NICs (100Mbps or faster) connected to the classroom LAN, for a total of 3 NICs; (referred to as the classroom network)
- Fibre Channel or iSCSI adapter supported by ESX Server, as shown in the VMware ESX Server SAN Compatibility Guide: [http://www.vmware.com/pdf/vi3\\_san\\_guide.pdf](http://www.vmware.com/pdf/vi3_san_guide.pdf),
  - Connected to a supported Fibre Channel switch; and
- A CD-ROM drive, keyboard, monitor, and mouse.
- NAS Device supported by ESX Server as shown in the VMware ESX Server SAN Compatibility Guide: [http://www.vmware.com/pdf/vi3\\_san\\_guide.pdf](http://www.vmware.com/pdf/vi3_san_guide.pdf)

### ***Additional Server Considerations***

As an alternative, an NFS data store can also be configured using a Linux server, or Microsoft Windows server (using Windows Services for Unix, available from <http://www.microsoft.com/technet/interopmigration/unix/sfu/default.mspix>.)

The range of server models used by the class should be as narrow as possible. In particular, the servers should have as few different types of CPUs as possible, so that VMotion technology may be included in the course.

Each server must have its own CD-ROM drive, keyboard, monitor, and mouse. Multiple blade servers cannot be used for the class because they share some of these hardware items.

### ***Fiber Channel Switch & Storage Area Network (SAN)***

The Fiber Channel switch shared by the servers must also be connected to a supported Storage Area Network (SAN) disk array, as shown in the VMware ESX Server SAN Compatibility Guide [http://www.vmware.com/pdf/vi3\\_san\\_guide.pdf](http://www.vmware.com/pdf/vi3_san_guide.pdf). This array must have:

- Three LUN's, 9GB, 10GB and 10GB for each ESX server, plus:
- Two LUN's, 100GB and 36GB for the class as a whole.

The per-server LUNs should be configured so that each is masked by the disk array from all WWNs, except the WWN of the single server that should see it. The per-class LUN should be visible to all the servers in the class.

Although VMware does not specifically qualify Fibre Channel switch models, we suggest the use of a Fibre Channel switch commonly deployed with ESX Server. Those include Brocade, McData, and Cisco models.

See [http://www.vmware.com/support/pubs/vi\\_pubs.html](http://www.vmware.com/support/pubs/vi_pubs.html) for an overview of the server requirements and links to the complete ESX Server compatibility guides for servers, I/O devices, and SANs.

### ***VirtualCenter 2.0***

There should be one extra "system" per ESX Server on which to install VirtualCenter 2.0. This system can be a physical machine or a virtual machine. So, if you have 6 ESX Servers, you need 6 VirtualCenter Servers (e.g., this could be 1 additional ESX Server hosting 6 VC VMs, or 2 additional ESX Servers hosting 3 VC VMs each.) VirtualCenter does not need to be installed; this is part of a lab exercise.

The requirements for VC sever can be found here [http://www.vmware.com/pdf/vi3\\_installation\\_guide.pdf](http://www.vmware.com/pdf/vi3_installation_guide.pdf)

There should be one SQL Server 2000 (SP4) system available, with a database created for each VirtualCenter Server. The database will be populated with VC tables when the student performs the VC installation lab.

### ***Required Software***

- ESX Server 3x CDs (one for each ESX Server)
- VirtualCenter 2x media (preferably the ZIP file copied onto the desktop of each server to be used for VirtualCenter)
- ISO images for the guest OS
- Host-based license and Server-based license for VMware Infrastructure 3 (Host-based license file is for each ESX Server, Server-based license file is for each VirtualCenter Server)
- Q257813\_W2K\_sp1\_X86\_EN.exe (this is the sysprep 1.1 installer that you can download from Microsoft's web site. Place this file on the desktop of each server to be used for VirtualCenter)

### ***Recommendation to Minimize Server Noise***

If the class uses local servers, VMware urges classroom facility managers to plan to mitigate server noise. Ideally, the servers and their consoles should reside in a room other than the classroom. If the servers must be in the classroom, the classroom must be large, so that the servers can be far away from the students and instructor; placing noise-absorbing material between the servers and the students is also strongly recommended.

### ***Network Requirements***

Neither the student desktop PCs nor the server systems may be on a production network. The Gigabit Ethernet card on each student server must be connected to a Gigabit Ethernet switch (The management network).

The NAS device, or server hosting the NFS share must be connected to the Management network.

A static IP address must be allocated for each server system (both the student servers and the instructor/infrastructure server). Ideally, there will also be a DHCP server available on the network that can grant up to 10 IP addresses per server system to virtual machines inside those server systems. If no DHCP server will be available, the instructor can set up a DHCP server virtual machine on the instructor/infrastructure server.

### ***License Requirements***

The delivery site must supply media for the installation of guest operating systems into virtual machines. (The delivery site is responsible for compliance with vendor license agreements.) See this document for a list of supported guest operating systems [http://www.vmware.com/pdf/vi3\\_systems\\_guide.pdf](http://www.vmware.com/pdf/vi3_systems_guide.pdf). VMware software licenses for VAPs may be obtained by registering at the <http://www.vmware.com/partners/academic/web site>.