VMware at MIT - Installing and Using Guest Operating Systems

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Support Overview

A guest operating system is an operating system installed on a host machine (a physical machine) and run virtually on VMware. IS&T supports installation of Windows and Red Hat Enterprise Linux as guest operating systems on VMware Fusion and Workstation.

Athena guest operating systems are technically possible, but not yet recommended or supported by IS&T. There are several known issues in the areas of networking, licensing, authentication, and time synchronization. The IS&T Vmware project team is currently reviewing these issues and may offer Athena guest operating system support in the future if they are resolved.

Virtual machines not created by VMware (converted from other virtualization systems) and PXE Installs with VMware are not supported or recommended by IS&T.

Review VMware's online compatibility guide for a comprehensive list of available systems/virtual machine combinations.

Licensing

Licensing Statement:
You are responsible for ensuring that all software (applications and operating systems) you run on your virtual machines are licensed to run on those virtual machines. Be aware that some vendors may have licensing restrictions related to virtual machines.

OS Licensing Overview:
Note: This information is not comprehensive. Review your licenses for additional information.

- Apple will allow users to run up to two additional instances of an Apple operating system on the same machine without a need for extra licenses. Mac OS X Server's license does allow for virtualization on Apple-labeled hardware. Virtualization is not available or vendor supported for retired most OS versions.
- Microsoft permits Windows licensing on VMware. In most cases, Microsoft Campus Agreement licenses allow up to four virtual instance installations. Review the Microsoft Campus Agreement at MIT to determine your eligibility.
- Red Hat permits Enterprise Linux licensing on VMware. Each virtual installation is considered a separate computer requiring an individual license.

Before You Begin

1. Review the appropriate **Release Notes** and **Getting Started Guide** for VMWare for Known Issues and System Requirements
    a. VMWare's Fusion Documentation List
    b. VMWare's Workstation Documentation List
2. Back up your system. Before beginning any installation, IS&T recommends you have a current and complete backup of your existing system. While we have tested the install process, there is an infinite number of possible system configurations, and some may cause problems.
3. Carefully plan your disk allocations. Do not over-allocate your disk. It is dangerous to tell VMware to make images that, if they all grew to their full size, would take up more disk space than you have free. If this happens, VMware may pop up an alert warning you when you're about to use up more space than you have. That would give you a chance to free up disk space or exit cleanly. We don't recommend relying on the warning. There's no guarantee it will appear before bad things (data loss or corruption) happen.
4. Visit the software grid to download VMWare.
5. Obtain the necessary install media for your guest OS.

Installing

1. Follow the instructions in VMware's Guest Operating System Install Guide to install your guest OS.
2. In VMware Workstation, during installation of Windows or Linux as the guest OS, select NAT as the Network Type. In VMware Fusion, on the Macintosh, NAT is selected by default. (NAT is the type recommended and supported by IS&T.) Advanced users, particularly running Linux guests, may discover they want or need to deal with the additional complexity of setting up a Bridged network interface.
3. Be sure to install VMware Tools within your guest OS. The VMware Tools package provides support required for shared folders, time syncronization, and for drag and drop operations. From the Vmware menu, select **VM > Install VMware Tools**. For additional information, see Installing VMware Tools.
4. Enable "Time synchronization between the virtual machine and the host operating system" via the VMware Tools installed on your virtual machine. VMware Time Sync and Windows Time Service.
5. Install/configure the auto-update service for your guest operating system, if needed. For more information, see: Red Hat Network and MIT Windows Automatic Update Service (WAUS)
6. Install available OS updates and virus protection software to secure your machine.

Using Your Virtual Machines

We strongly recommend treating each virtual machine as if it was a physical machine for most activities. Virtual machines are vulnerable to most of the same things as physical machines including data loss/corruption, hardware failures, viruses, and hackers. Install and use virus scanning software. Take regular updates to your operating system, preferably via an automatic update system. Make regular backups of important data. Follow the recommended best practices for your guest operating system. In most cases, simply treat your virtual workstation as you would any other machine.

- VMware Security Recommendations and Best Practices