

## **Introduction to Virtualization Technologies (4 Days)**

### **Description**

In this 4-day class participants will learn about virtualization technology products offered by Microsoft, VMware, and Citrix. This course is approximately 50% lab and demo and 50% lecture. Students will be working on real hardware in a remote datacenter.

### **Course Outline**

1. What is virtualization?
2. Hypervisors
  - a. Vendors
    - i. Microsoft
    - ii. VMware
    - iii. Citrix
  - b. Type 1 vs Type 2
  - c. Enterprise
    - i. Virtual RAM
    - ii. Virtual Disk
    - iii. Virtual Network
  - d. Desktop
    - i. Test/Dev
    - ii. Small Shop
    - iii. Hardware independence
    - iv. Application building
3. Challenges and types of processor virtualization
  - a. Intel-VT
  - b. AMD-V
4. Virtualization of hardware (non-processor)
  - a. HAL
  - b. Drivers
5. Virtual Machines
  - a. Guest O/S
  - b. Desktop Virtualization
  - c. Server Virtualization

6. Application Support
  - a. Legacy
  - b. 32/64 bit
  - c. Application Patching
  - d. Application building and testing
  - e. Application Training
7. Build Virtual Machines
  - a. Manual
  - b. Automation
  - c. Copy vs Clone
8. Backup and Restore Virtual Machines
  - a. Manual
  - b. Backup Software
  - c. Shadow Copies
9. Physical to Virtual/Virtual to Virtual
10. Snapshots
11. Hypervisor management
12. Hypervisor and Virtual Machine Clustering and Fault tolerance
13. Workload manipulation
  - a. vMotion/Live Motion
  - b. Load Balancing
14. Deploy
  - a. VMware Player/Workstation
  - b. Windows 8 Hyper-V
  - c. vSphere 5.1
  - d. Hyper-V 2012
  - e. XenServer
15. Virtualization Architecture and Design
16. Hypervisor comparison VMware/Microsoft/Citrix