VMWare Administration II: VSphere Planning, Configuration, and Troubleshooting

Prerequisites: The student needs to have taken VMWare Administration I and have work experience with vSphere, ESXi5.X and vCenter 5.x. This class builds directly on what was established in the first class and this class is not a newbie course.

The first two session will consist of planning; we will look at best practices, do the lab set up, and build a single vCenter server using windows 2008 R2 as the host machine. We will also build 1-2 ESXi host machines.

System Requirements: The PC should have at least 8 GBs of RAM, be running Windows 7, dual-core processors, and around 75 GBs of free disk space. During the class, the student will go through exams, exercises, and will work as part of a team.

Course activities:

- The student will use VMplayer or VMware Workstation to run their environment. VMplayer is free, and eliminates licensing issues. Workstation has a 30 day drop dead license, and after that you either buy it, or get another license.

- Assuming they have sufficient RAM and resources, they can also run Windows 2008R2 as a VM in Player or Workstation. It will require at least 2 GBs of RAM assigned to it (the more RAM you give it, the better). If the student wants to place it on an external machine (a glorified workstation or even a server), they can do that too.

- In the majority of the cases, the student will run his or her vSphere 5.x host as a VM. It will need a minimum of 2 GBs of RAM.

- Some manner of software for an OS will be needed, and it doesn't matter if it's an old Windows machine or Linux. In most cases you won't be running a x64 bit OS inside your virtual ESXi server, so try to stay with a 32 bit OS.

Course Outline:

- Session 1 – A quick review of vSphere, the files that make it up, and deployment of same. We'll begin here by talking best practices, and plan out our deployment beforehand.

- Session 2 – We begin by looking at best practices and structuring our vCenter deployment accordingly. We'll also install the Web Client and begin using it. Time permitting; we deploy update manager to a x32 bit windows 2008 server.

- Session 3 – Deploying VMs. We begin looking at our VMs in terms of getting the most bank for the buck from them. In the basic course we just looked at building them, here, we get deep into the nuts and bolts, start looking in

terms how different settings will impact performance. We'll build two VMs, one with the out of the box configuration most use, and the other tweaked. We'll begin doing stress tests on both, and see if one is better than the other. We'll of course record our results, and make a case for which is better.

- Session 4 – This is all about tweaking the host for max performance. The majority of this work will happen using the shell interface, and manipulating configuration settings from within. In the basic course, we showed a few basic commands; here we'll do things using nearly every command in the ESXCLI and vicfg repertoire. We'll also dive deeper into PowerCLI and PowerGUI.

- Session 5 – Best practices – In addition to best practices used for the host machine, we get a bit more into best practices for the VMs, looking in terms of OS to Function tune ups.   We'll look at best practices for: Exchange SQL, Oracle, Citrix XenApp, Domain Controllers, and Linux servers.

- Session 6 –Troubleshooting: identifying when you have an issue, what an SLA is all about (and how to get one). Built in trouble shooting tools like Performance Charts and ESXTOP and really maximizing the use. Most importantly, we'll begin looking at metrics for what they mean.

- Session 7- Troubleshooting continued. Using metrics gathered through Charts and ESXTOP, we'll identify the causes and solutions of problems. In both Session 6 and 7 we'll examine issues with VMtools, CPU, RAM, Storage, and networking.

- Session 8 – Troubleshooting Vsphere HA, DRS, and FT. We'll also look at vCenter troubleshooting to include linked mode, database issues, and what to do about it.

- Session 9 –Capacity planning and combating virtual sprawl – Using free tools such as vOptimizer and Vmware's vOrchestrator, we'll look at the definition of virtual Sprawl, technical and legal ramifications, and most importantly, what to do about it. Change management will figure into our discussion also.

- Session 10: A strong look at documentation, and reporting metrics. We'll use various tools to gather reports, and understand their use   Course concludes with an Exam and an Exercise testing the student's knowledge.

Recommended books for this course:

While there will be tons of handouts, and every resource possible will be made available to the student, the following book is suggested as a reference.

COURSE TECHNOLOGY
Professional • Technical • Reference

Includes more than three hours of
vSphere 5 video training from TrainSignal

Administering
vSphere 5

Planning, Implementing, and Troubleshooting

- Provides a comprehensive guide to the popular virtualization solution from the market leader, VMware
- Includes tips, tricks, and analogies from years of consulting and training by the authors
- Covers the latest vSphere release and all updated features

John Hales, Brian Siler, and Steve Jones