Interview Pre Researched Scenarios

We have detailed below 4 scenarios that are typical of issues and problems you are likely to encounter in this role.

At interview you will be asked to explain your approach to these scenarios. You will have to make some assumptions about the environment so be prepared to state these. Feel free to make notes to bring with you.

Scenario 1

A system comprises of 500 physical XEN management hosts connected on a 1Gb/s Ethernet network. Each management host is running up to 10 virtual machines, the majority of which are Centos. The network infrastructure is a standard "top of rack" switch, distribution switch, and core switch layout. All hosts and virtual machines share the same subnet.

Under normal network loads there appears to be no problem but you have noticed some possible issues.
1. That a ping test between some hosts intermittently shows packet loss of just under 1% of packets.
2. That ping tests show most round trip times of under 1ms but intermittently single responses take 25-100ms

Under high load conditions
1. Applications running in the virtual machines suffer time out problems
2. XEN servers record dropped packets in their physical interface cards
3. Ping tests between some hosts report 20-30% packet loss

At interview you will be asked to:
1. Draw a diagram of what you would expect the network topology to look like.
2. Describe what further information you would gather and how you might obtain it.
2. Describe how you would use this information to resolve the application time outs.

Scenario 2

A system comprising of mainly linux servers has a small windows subsystem that runs as a windows server domain. Two windows servers run as jboss java application (windows 2003 server) servers and two run as a sql server cluster (Windows 2008 R2).

One of the application servers which is also the domain controller intermittently reboots itself.

At interview you will be asked to:
1. Describe the steps you would take to determine the cause of the server reboots
2. Describe how you would migrate this type of system to a more recent version of windows.

Scenario 3

When a JAVA application that processes incoming text file and creates index entries based on keywords/phrases encounters a file it cant process it writes an entry in a MYSQL table ERRORQUEUE, this table has date/time, text message id, and an error code fields.

1. Using a scripting language of your choice create a script to interrogate the ERRORQUEUE and count the number of entries by day for the last 7 days.
2. Explain how you would extract, consolidate, and present this information from 100 servers each with their own ERRORQUEUE table.

Scenario 4

What does the following message mean:
kernel: Filesystem "sda1": XFS internal error xfs_trans_cancel at line 1138 of file fs/xfs/xfs_trans.c. Caller 0xffffffff8805c182
kernel:
kernel: Call Trace: <ffffffff880540c2>{:xfs:xfs_trans_cancel+91}
kernel: <ffffffff8805c182>{:xfs:xfs_mkdir+1414} <ffffffff8801cb28>{:xfs:xfs_attr_get+191}
kernel: <ffffffff880656a8>{:xfs:xfs_vn_mknod+454} <ffffffff8018a321>{vfs_mkdir+234}
kernel: <ffffffff8018cf70>{sys_mkdirat+163} <ffffffff8010b07e>{system_call+134}
kernel: <ffffffff8010aff8>{system_call+0}
kernel: xfs_force_shutdown(sda1,0x8) called from line 1139 of file fs/xfs/xfs_trans.c. Return address = 0xffffffff880540e0

What should you do about this?