

DEMO SCRIPT: SLE11 - LIVE MIGRATION

TIME	NARRATIVE	ACTION
	PRE-FLIGHT CHECKS	<ul style="list-style-type: none"> • Boot all laptops. • Start XENDemoServerUTP on HARPO. • Check that the demo reset procedure (at end of this script) has been done so that you are starting from a known-good position. • On GROUCHO <ul style="list-style-type: none"> ◦ Open a terminal window and "ssh -X -lroot chico" ◦ Enter "watch -n1 xm list" ◦ Open a terminal window and "ssh -X -lroot harpo" ◦ Enter "watch -n1 xm list" ◦ Open a third terminal window and, as root, type "mount XENDemoServerUTP:/nfsserver /mnt" ◦ Type "ls /mnt" and you should see a file called mac_pc_linux.ogg ◦ In the same terminal window type "ssh -X -lroot harpo" ◦ Open a fourth terminal window and "ssh -X -lroot harpo" ◦ Open the video file in Totem, make sure it plays, set it to auto-loop then stop and rewind to the beginning. • Resize all of the windows so everything shows on the screen.
	INTRO	

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	<p>Live migration is one of the most important functions used in server virtualization. It is used to move workloads from machines that need servicing; it is used to balance workloads across physical servers, and several other things. Live migration is available with SUSE Linux Enterprise Server with Xen out of the box. VMware indicated that 70 percent of its customers that are using its virtualization software in production mode are using VMotion, VMware's live migration tool. With SLES live migration is included in the cost of a subscription, but VMotion will cost you well over \$5,000 and more depending on the option that you chose with VMware.</p>	
	<p>DEMO</p> <p>We have two SLES Xen virtualization hosts called CHICO and HARPO, and a SLES Xen virtual machine called XENDemoServer from which we will be playing a movie stored on an NFS share. Xen on SLES comes with the ability to migrate virtual machines in a live state, while they are actually running. This enables you to bring servers down for maintenance without interrupting service to your users. We are going to demonstrate this by migrating our movie server, while watching the video to show that there is no loss of connectivity while the VM is migrated from one host to</p>	

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	<p>another, due to the buffer in the movie player.</p> <p>We have two windows open showing the current state of virtual machines on each node. As you can see the "movieserver" virtual machines is currently running on HARPO, and the movie is playing from it. I am now going to issue a live migrate command and you will see the status on these windows change. On the HARPO virtual machine list, you will see for a brief moment that the machine will be labelled as "migrating" while it will be instantiated and paused on CHICO until the migration completes. During this time, the movie will continue to play.</p> <p>Now to demonstrate that the movie is indeed running from the virtual machine moved from HARPO, we are going to pause the virtual machine. The movie will continue to play to the end due to NFS caching, but will pause shortly after that. Now, I will issue the "xm pause XENDemoServer" command and wait for the video to stop playing.</p> <p>Once the video stops playing, I will then issue the xm unpause XENDemoServer" command. The video should then resume from where it</p>	<p>Show GROUCHO desktop with windows open as per PRE-FLIGHT CHECKS. Start movie playing.</p> <p>ISSUE MIGRATE COMMAND on the server where the VM is currently running. In HARPO's SSH session, type "xm migrate -l XENDemoServerUTP chico" Point out the changes on the xm list screens. (instance on CHICO will remain in paused state until it is ready to take over, then there is a very quick switch from HARPO to CHICO. This, plus NFS caching, is what keeps the movie playing smoothly).</p> <p>In CHICO's SSH session, issue the "xm pause XENDemoServerUTP" command. Wait for video to stop playing.</p> <p>Issue the "xm unpause</p>

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	stopped.	XENDemoServerUTP" command.
	<p>SUMMARY</p> <p>As you can see, live migration is a valuable feature in a data center. You can use live migration for the reasons given earlier and for other things such as eliminating disruption due to planned server downtime, move virtual machines away from failing or under-performing servers, populate new host servers in your lab, load balancing, etc.</p>	
	RESET PROCEDURE	<ul style="list-style-type: none"> • On Chico command terminal, run the command "xm migrate -l XENDemoServerUTP harpo", to move the vm back where it started. • In both CHICO & HARPO command terminals (the one terminal window with two tabs), issue the "clear" command to clear the screen.

END