

## DEMO SCRIPT: SLE11 - HIGH AVAILABILITY

TIME	NARRATIVE	ACTION
	PRE-FLIGHT CHECKS	<ul style="list-style-type: none"><li>• CHECK that demo resets (at end of this script) have been done, so that you are starting from the known-good position.</li><li>• On HARPO Go into Virtual Machine Manager and start node1 VM and wait a few minutes for everything to settle, then start node2</li><li>• On GROUCHO open a terminal window and type "ssh -X -lroot Node1UTP"</li><li>• in the terminal type, "crm_gui &amp;" [Return]</li><li>• In terminal type clear ( you may need to press enter to get a prompt)</li><li>• In HA gui, Press Connect button, login as root / n0v311 to local machine</li><li>• and expand all resources to show the that the web server resource group is running on node1. Resize the panes appropriately so that the node names can be seen next to the resource.</li><li>• Open up Firefox and access the resource <a href="http://HAclusterUTP">http://HAclusterUTP</a></li><li>• All of these windows should be visible at the same time.</li></ul>
	INTRO  Today we'd like to demonstrate how you can use SUSE Linux Enterprise High Availability Extension to create highly available	

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	<p>services for your mission critical Linux workloads - services like databases, messaging systems, and file and print services.</p> <p>SUSE Linux Enterprise High Availability Extension is an affordable, integrated suite of robust open source clustering technologies that enables you to implement highly available physical and virtual Linux clusters. Used with SUSE Linux Enterprise Server, it helps you maintain business continuity, protect data integrity, and reduce unplanned downtime for your mission-critical Linux workloads. By using SUSE Linux Enterprise High Availability Extension, you can safely depend on commodity hardware for your mission-critical workloads, deliver the services required by your business, and contain costs.</p>	
	<p>DEMO</p> <p>We have a two node cluster to provide a highly available web server resource. In this demonstration environment, the cluster is made up of two Xen virtual machines. This shows the power and flexibility of SLES. If my workload can run well in a virtual environment, there is no need to purchase physical hardware just because I want to make the resource highly</p>	<p>Show Virtual Machine Management GUI on HARPO</p>

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	<p>available.</p> <p>If I access the web server as a client, via FireFox, you can see that it is indeed being served by node1. In order to make this clear, we modified the web page to show the end user which node the resource is running on. In a real-world environment, this would of course not be needed.</p> <p>We are now going to simulate a failure by manually killing the Apache process and you will see the cluster recover the resource and start it on the other node.</p> <p>Now that the service has failed over let's test it from the browser.</p>	<p>Show Firefox viewing <a href="http://HAClusterUTP">http://HAClusterUTP</a> home page. The page will say "Node 1" on it.</p> <p>(From the SSH session logged into NODE1, issue the pkill command like this: "pkill httpd" then immediately point out the resource being discovered as failed and as it starts up on NODE 2.</p> <p>Once the resource is migrated to the other node, go back to Firefox and hit the reload button. The web page should now show it was served by the other node.</p> <p>NOTE: You can try and migrate it back to the first node by failing it again on the second node. However, if this is done too fast, since we only have two nodes, the cluster might consider the resource as having a permanent fault and not starting it again, until the resource is "Cleaned-up." In order to avoid this, do not demonstrate a second migration immediately following the first one. In fact, try to avoid doing this at all.</p>
	<p>SUMMARY</p> <p>SUSE Linux Enterprise High Availability not only protects single applications, but also groups of</p>	

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	<p>applications, physical and virtual. In order to cluster workloads, the cluster resource manager needs some way of communicating with the application, to determine whether or not it is running as intended, stopping it if need be, and starting it again. This is normally done through resource agents. SUSE Linux Enterprise High Availability Extension includes resource agents for many third party and open source applications, at no additional charge. Included are scripts for monitoring third party applications, such as SAP Instance and Database, Oracle, IBM DB2, Informix and WebSphere, and VMware. Also included are scripts for popular open source services, such as Apache, MySQL, NFS, Postgres, Tomcat, Xen and eDirectory. With these components, you can quickly, easily and affordably set up many highly available data center services.</p>	
	<p>RESET PROCEDURE</p>	<ul style="list-style-type: none"> <li>• Restart NODE 1 &amp; NODE 2 from the High Availability GUI.</li> <li>• Clear terminal screens of past run-through's command outputs.</li> </ul>

END