Clean Shutdown of Virtual Machines using PowerChute Network Shutdown in a HA Cluster Environment

Background:

In a VMware HA Cluster environment the Virtual Machine Startup/Shutdown feature is disabled by design. This means that when PowerChute issues a command to shut down ESXi hosts in response to a critical UPS event the guest VMs running on those hosts will not shut down cleanly. The attached script has been written to avoid this problem without having to disable the HA feature.
NOTE: The script should be tested in a non–production environment before use on production
servers. The script is a sample solution for customers wishing to cleanly shut down VMs in a HA environment.

Usage:

1. Copy shutdownvms.tar to a folder on the vMA machine.
2. Uncompress the file tar -xf shutdownvms.tar
3. Change permissions of the new file shutdownvms.sh – sudo chmod +x shutdownvms.sh.
4. In the PowerChute UI go to the Configure Shutdown page.
5. Enter the full path to shutdownvms.sh under “Run this command file (full name).
6. Enter a value under “The command file needs this much time to complete(seconds)” – this is the time allowed for all powered on VMs to shut down cleanly before the command to shut down the ESXi hosts is issued.
7. Edit shutdownvms.sh and change the following values:
    a. hosts=(10.216.252.167 10.216.252.168 10.216.252.169) – this is the list of ESXi host machine IP addresses, separated using a space, that PowerChute will attempt to shut down. This list should correspond to the list of vifp target servers (vifp listservers) – Please refer to the Installation Guide for information on how to add vi-fastpass target servers. The IP address of the ESXi host on which the vMA is running should appear last in this list.
    b. ups_vm="vSphere Management Assistant \(vMA\)" – this is the name of the vMA where PowerChute is installed. The script deliberately avoids shutting down this VM. If there are parentheses () in the vMA name these must be escaped using a backslash.

The script connects to each ESXi host specified in the hosts list using the command “vifptarget –s <host_ip_address>” and processes all of the VMs running on that ESXi host. If the VM is in a powered on state the script issues a command to gracefully shut down that VM. When the shutdown command file delay has elapsed PowerChute will then issue the command to shut down the ESXi hosts.

```
#!/bin/sh
LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/opt/vmware/vma/lib64:/opt/vmware/vma/lib
export LD_LIBRARY_PATH
export PERL_LWP_SSL_VERIFY_HOSTNAME=0
SAVEIFS=$IFS
IFS=$(echo -en "\n\b")
hosts=(10.216.252.167 10.216.252.168 10.216.252.169)
ups_vm="vSphere Management Assistant \(vMA\)"
for host in ${hosts[@]}; do
echo $host
source /opt/vmware/vma/bin/vifptarget -s $host
for i in `vmware-cmd -l --username xxxxx --password xxxxx`; do
 if [ `vmware-cmd $i getstate | egrep -c "on"` -eq 1 ]; then
    echo $i
    if [ `echo $i | egrep -c $ups_vm` -eq 1 ]; then
        echo "Skip shut down of VMA"
    else
        echo "Shutting down $i"
        vmware-cmd "$i" stop soft
    fi
 fi
done
source /opt/vmware/vma/bin/vifptarget -c
done
```