Cheatography

The WebGW Cheat Sheet

by Bell.Labs (Steve Fowlkes) via cheatography.com/20709/cs/3772/

The Maintenance Host (host01)

Host01 is the Maintenance Host. It is host to things like the MI and CNFG. Commands for Health and Status of the other blades are run from here. These are all very passive and "safe" commands to run without disrupting or changing any configuration.

cm_adm -a flavor_summary Shows what 'flavor' is running on the cards. Flavor is what the VM is doing. Ex: vPIM or vSCM

cm_adm -a tenant_summary Displays all of the configured tenants on the system, their 'type", what VLAN's they belong to, and what io type is configured.

cm_adm -a vm_status --target all Great command that shows, tenant by tenant, the name, state and flavor of the VM. In general the state here must be active.

cm_adm -a health A command that preforms a health diagnostic of the entire system. If it passes you'll get a "Health Check Passed" message. This is an all inclusive test. Hosts, VM's and the files needed to checked.T-hings to look out for here are SSH, and IPM. (IP Manager) these must be in a pass state.

The Maintenance Host (host01) (cont)

cm_adm -a vm_host_summary -t host# replace the # with which host you are inquiring about. This gives you a modest amount of info for the host's vm's.

cm_adm -a vm_power_off -v 0<VM NAME> Used to shutdown a VM.

cm_adm -a vm_restore -v <VM NAME> Used to start a VM that was previously created and then stopped by the vm_shutdown action, or vm_power_off command.

Backing Out of a Layer

Starting from ssh and going all the way down to the rconsole levels is a tricky business to pull back out of. If you don't exit the layers properly, you can level a session open, in which it will hang if you try to re-enter that same layer.

Here's a general methodology:

How you get in: **ssh**

How you get out: **exit**

How you get in: **virsh console**

How you get out: **ctrl +]**

How you get in: **node-console -s**

How you get out: **logout** then... **ctrl + c**

How you get in: **rconsole**

How you get out: **exit**

Backing Out of a Layer (cont)

In effect you would be climbing back up the chain of layers to where you started.

TroubleShooting

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The Hosts

These commands can be run from any host on the system. Remember there is one host per blade. Each host runs multiple VM's.Normally you ssh to the host you want, or ssh from host01 to whatever host you wish.

Not all of these commands are 'passive', so use caution!

The Hosts (cont)

virsh list Let's you see all of the VM's running on the particular host that you are on. For example, Host01, has 4 different vm's. Also shows the state it is in. Should be 'running'.

virsh console <VM NAME> This is the virsh command you'll be using the most. Let's you connect into the VM that you have on that particular host. Ex: **virsh console 01-s00c01h0** You can't virsh into a VM that is not located on the host.

virsh console <VM NAME> --force This can be an extremely helpful command to help force out an existing or hung session (If someone logs out of virsh incorrectly!

virsh reboot <VM NAME> Reboots the VM specified.

virsh shutdown <VM NAME> Shutsdown the VM specified.

virsh start <VM NAME> Starts the VM specified

virsh dumpxml <VM NAME> This prints out the XML configuration about the VM that was written at it's creation. Generally you won't need to change any of this...

virsh destroy <VM NAME> Destroys the instance of the VM you specify

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The Hosts (cont)

virsh undefine <VM NAME> Undefines the name, and provisioning of the domain of the VM you specify. To completely remove a VM you need to run both commands, destroy and undefine.

In Virsh, all VM's are created by configuring XML files, which are read into virsh.

VM States

When you are in the MI host (00-s00c01h0) run the command "cm_adm -a vm_status --target all" you will see a read out of the state of all the VM's provisioned. The states of the VM's on the cards are as follows:

Guest or "Tenant" Commands

RCC- Reliable Cluster Computing This cluster is a process on a host that monitors and controls the status of all the VMs on that host. RCC maintains high availability and acts upon errors.

REM - REdundancy Manager The REM combines the actions of the SM running on the configuration server and LM tasks running on the cards (Local Manager and System Manager).

Guest or "Tenant" Commands (cont)

These commands can be run from the MI. They manage the VM's throughout the different blades. These must be run as user lss.

rcc_srv_state --action display --set ALL Report all RCC and VM states

rem_srv_state --action display --set all Report all REM status

The VM's On Each Host

Each Host blade will be running VM's that are running the services we need. (IMS, PIM, SCM, OA etc...) Once on the VM, you can connect to each of the services running.

node-console -s <card #> This allows you to connect to the specific SCM card. Replace card # with the actual number. The card number must be on the Host to connect to it.

node-console -p <card #> This allows you to connect to the specific PIM card. Replace card # with the actual number. The card number must be on the Host to connect to it.

The VM's On Each Host (cont)

view node This lets you get a low level look at what the application on the VM are doing. Most importantly it shows the VM's UP/DOWN status, and the application's UP/DOWN status. It also shows each application (PIM, or SCM), it's state, and it's function (Active/Standby). Very useful command.

view ip statistics current This seems to give you a good measurement of how to gauge rather the applications you set up are actually talking and receiving traffic.

view ip if This command shows the basics of what most ifconfig commands show. It gives you a list of interfaces that are created for the application, as well as the state (up/down) the prefix or subnet cidr, the interfaces name (en.scm1, or en.pim2 etc..), and the vlan it's attached to (mgc, oam, voice, etc..)

view route table Shows the routing table would should have atleast 1 static and one local route. The static route may or may not be the default gateway.

It is at this deep, 'Application Layer' that we must configure the IP's, networks, and subnets.

The GUI's

Remember what GUI is on what machine.

FS-GUI

The CNFG VM hosts the web server that lets us get to the FS-GUI. This is the application where we set the parameters for the ISC portion, including realms, filters, SIP applications, firewalls, Diameter profiles, charging collection data, PCSCF tables etc.. The FS-GUI application needs to be downloaded from the CNFG server via ftp. Use filezilla. It is located in /opt/lss/lmt/provgui

MI-GUI

8950 ID Management GUI

Quick Definitions and Things to Remember

IP Realms: Realms allow you to group addresses and subnets that are known to a border gateway. It then lets the gateway know which realm it requires an address from. (untrusted or trusted in our case)

VMM Virtual Machine Manager, basically the hypervisor that supports us using all of the VM's and their sub-applications.

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Quick Definitions and Things to Remember (cont)

iLO iLO is the embedded server software on the chassis itself, and on each bay, that allows for remote connectivity. All iLO addresses are apart of the OAM vlan.
Naming of VM's: <Tenant Number> - <shelf number> <card number> <Host number>
All VM's, Hosts, and nodes in a particular subnet, and VLAN will use the same default gateway.
Remember to put ipv6 addresses in [ ] 's when used with a port number.
If you are on a PC or behind a router that only supports IPv4, and the MI-GUI is provisioned IPv6, you won't be able to access it.
You must download the provisioning gui software from the CNFG server. Check the CPC for this address, and ftp the software from that address.
It's location: /opt/LSS/LMT/ProvGui/Softswitch
Files Needed:
.olv.zip is for the chassis provisioning. Created from the original Guest Field Worksheet.
.xls Guest Worksheet is for the system and VM provisioning.
"7510 script" 7510 IP Provisioning

Quick Definitions and Things to Remember (cont)

CPC/NDP: Core files that are used to create and populate the above files.
.xlsprov This file is needed to prevent manually inputting the hundreds of parameters into the FS-GUI/COM

Keep Your Bearings

To keep track of where you are in the system, you can reference this to see what the prompts correspond to. The prompts below are examples, the numbers will be different, but learn to recognize the general syntax.
When you are on the Host Level:
[root@wgw03-host01 ~]#
When you are on the VM Level:
[root@vmm05-10 ~]#
When you are on the 'Sub-Service' Level:
My-Chassis:ACT-SCM:1.10(r0)->=2:diag:main:vMGx#
When are you in any of these levels, make sure you exit the level properly, or the 'session' will still be open, and cause you problems when you try to return!

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