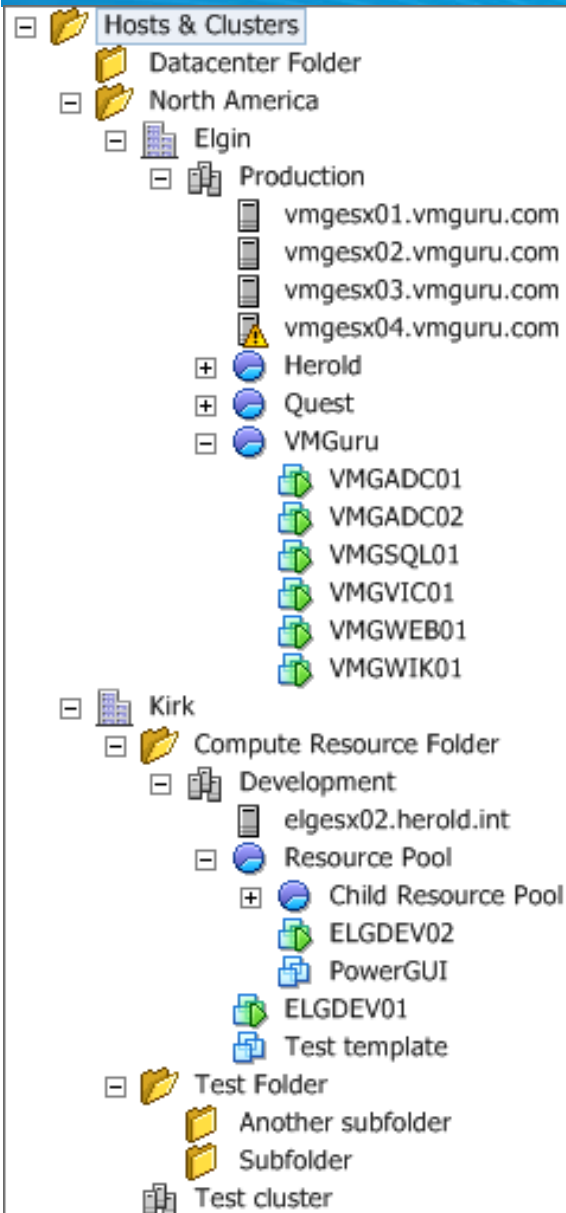


# VMware VI Toolkit 1.5

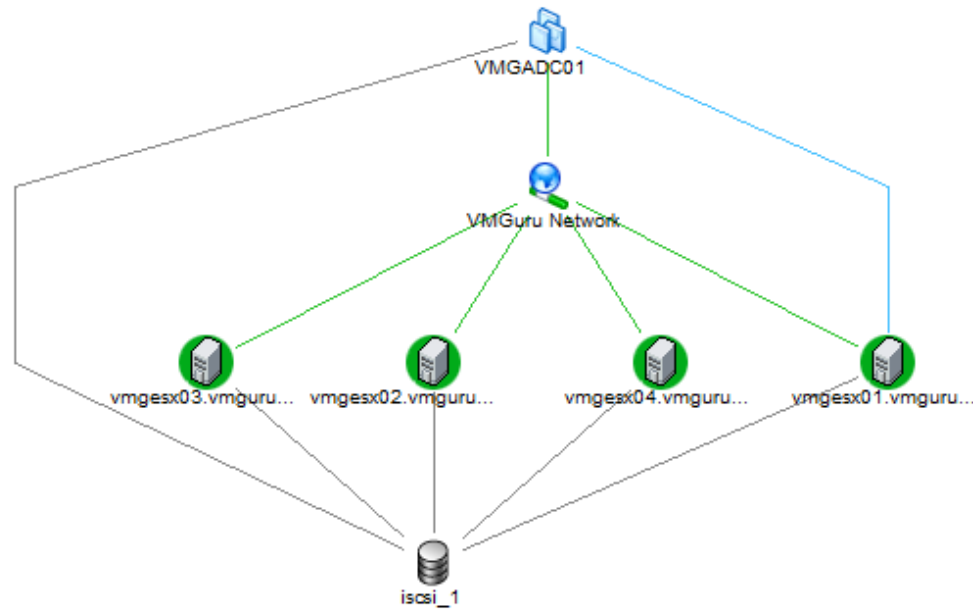
Alan Renouf

<http://virtu-al.net>





- Datacenters
- Clusters
- Folders
- Hosts
- Resource Pools
- Virtual Machines
- Datastores
- Luns
- HBA's
- Virtual Switches
- Port Groups
- Templates
- Clone
- Virtual Nic
- Physical Nic
- Virtual CPU
- Virtual Hard Disk
- More...



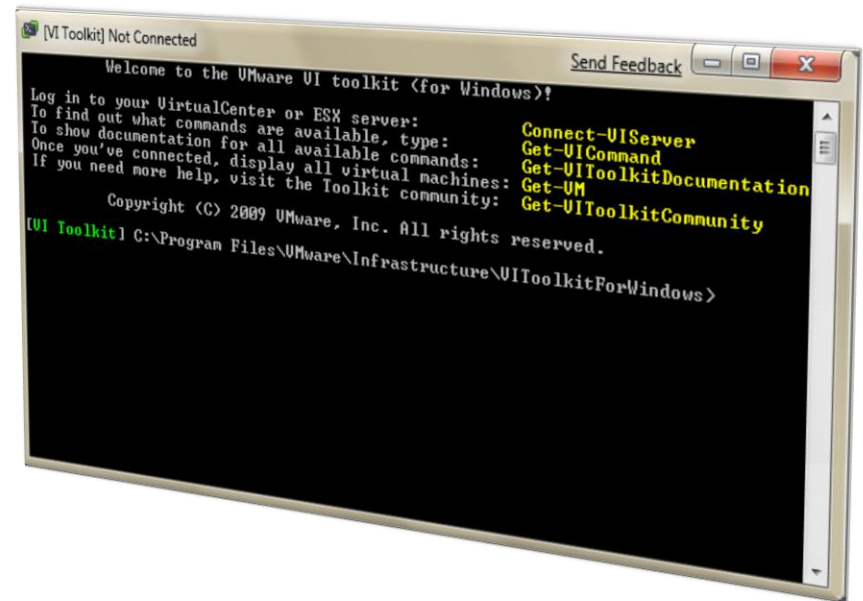
Consistent configuration means things will work

- Vmotion
- Storage Vmotion
- Templates
- Clones

VI Toolkit current version is 1.5

- Contains **157** cmdlets
  - **2** Providers
    - Datastore
    - Inventory
  - **70** Toolkit Extension cmdlets
- Codeplex project to enhance the VI Toolkit functionality.

<http://vitoolkitextensions.codeplex.com/>



70% Coverage or if you include the extensions around 75-80%

## Verbs:

Add-  
Connect-  
Disconnect-  
Dismount-  
Get-  
Invoke-  
Mount-  
Move-  
New-  
Remove-  
Restart-  
Set-  
Shutdown-  
Start-  
Stop-  
Suspend-  
Test-  
Update-  
Wait-

## Nouns:

-VM  
-VMHost  
-VlServer  
-Datastore  
-VirtualSwitch  
-VirtualPortGroup  
-Cluster  
-Template  
-ResourcePool  
-Task  
-Log  
-Folder  
-Datacenter  
-Template  
-VMGuest  
-HardDisk  
-CDDrive  
-FloppyDrive  
-Snapshot  
Etc.....

```
[VI Toolkit] Not Connected
Send Feedback
Add-VMHost
Add-VMHostNtpServer
Connect-VIserver
Disconnect-VIserver
Dismount-Tools
Get-Cluster
Get-Datacenter
Get-Datastore
Get-DrRule
Get-FloppyDrive
Get-Folder
Get-HardDisk
Get-Inventory
Get-Log
Get-LogType
Get-NetworkAdapter
Get-OSCustomizationSpec
Get-ResourcePool
Get-ScsiLun
Get-ScsiLunPath
Get-Snapshot
Get-Stat
Get-StatInterval
Get-StatType
Get-Task
Get-Template
Get-VIcredentialStoreItem
Get-VIEvent
Get-View
Get-VIObjectByVlView
Get-VirtualPortGroup
Get-VirtualSwitch
Get-VIToolkitConfiguration
Get-VIToolkitVersion
Get-VM
Get-VMGuest
Get-VMHost
Get-VMHostAccount
Get-VMHostAdvancedConfiguration
Get-VMHostDiagnosticPartition
Get-VMHostFirewallDefaultPolicy
Get-VMHostFirewallException
Get-VMHostFirmware
Get-VMHostModule
Get-VMHostNetwork
Get-VMHostNtpServer
Get-VMHostService
Get-VMHostSnmp
Get-VMHostStartPolicy
Get-VMHostStorage
Get-VMHostSysLogServer
Get-VMResourceConfiguration
Get-VMStartPolicy
Invoke-VMScript
Mount-Tools
Move-Cluster
Move-Datacenter
Move-Folder
Move-Inventory
Move-ResourcePool
Move-VM
Move-VMHost
Move-CDDrive
New-Cluster
New-CustomField
New-Datacenter
New-Datastore
New-DrRule
New-FloppyDrive
New-Folder
New-HardDisk
New-NetworkAdapter
New-OSCustomizationSpec
New-ResourcePool
New-Snapshot
New-StatInterval
New-Template
New-VIcredentialStoreItem
Add-VMHost [-Name] <String> ...
Add-VMHostNtpServer [-NtpSer...
Connect-VIserver [-Server] <...
Disconnect-VIserver [-Serve...
Dismount-Tools [-Guest] <VM...
Get-CDDrive [-VM] <VirtualM...
Get-Cluster [-Name] <String...
Get-Datacenter [-Name] <Str...
Get-Datastore [-Name] <Stri...
Get-DrRule [-Name] <String...
Get-FloppyDrive [-VM] <Virt...
Get-Folder [-Name] <StringI...
Get-HardDisk [-VM] <Virtual...
Get-Inventory [-Name] <Stri...
Get-Log [-Key] <StringI> [-...
Get-LogType [-VMHost] <UMH...
Get-NetworkAdapter [-VM] <U...
Get-OSCustomizationSpec [-N...
Get-ResourcePool [-Name] <S...
Get-ScsiLun [-CanonicalName...
Get-ScsiLunPath [-ScsiLun] <...
Get-Snapshot [-VM] <Virtual...
Get-Stat [-Entity] <VlObjec...
Get-StatInterval [-Name] <S...
Get-StatType [-Name] <Strin...
Get-Task [-Status] <Nullabl...
Get-Template [-Name] <Strin...
Get-VIcredentialStoreItem [-...
Get-VIEvent [-Entity] <VlOb...
Get-View [-Id] <ObjectI> [-...
Get-VIObjectByVlView [-VlVie...
Get-VirtualPortGroup [-UMH...
Get-VirtualSwitch [-VMHost]...
Get-VIToolkitConfiguration [-...
Get-VIToolkitVersion [-Verbo...
Get-VM [-Name] <StringI> [-...
Get-VMGuest [-VM] <VirtualMa...
Get-VMHost [-Name] <StringI...
Get-VMHostAccount [-Id] <St...
Get-VMHostAdvancedConfigurat...
Get-VMHostDiagnosticPartitio...
Get-VMHostFirewallDefaultPol...
Get-VMHostFirewallException...
Get-VMHostFirmware [-VMHost...
Get-VMHostModule [-Name] <St...
Get-VMHostNetwork [-VMHost]...
Get-VMHostNtpServer [-VMHos...
Get-VMHostService [-VMHost]...
Get-VMHostSnmp [-Server] <U...
Get-VMHostStartPolicy [-VMH...
Get-VMHostStorage [-VMHost]...
Get-VMHostSysLogServer [-VM...
Get-VMResourceConfiguration...
Get-VMStartPolicy [-VM] <Vi...
Invoke-VMScript [-ScriptTex...
Mount-Tools [-Guest] <VMGue...
Move-Cluster [-Cluster] <Cl...
Move-Datacenter [-Datacente...
Move-Folder [-Folder] <Folder...
Move-Inventory [-Item] <VlO...
Move-ResourcePool [-Resourc...
Move-VM [-VM] <VirtualMachi...
Move-VMHost [-VMHost] <UMH...
New-CDDrive [-VM] <VirtualM...
New-Cluster [-Name] <String>...
New-CustomField [-Entity] <I...
New-Datacenter [-Name] <Stri...
New-Datastore [-VMHost] <UM...
New-DrRule [-Name] <String>...
New-FloppyDrive [-VM] <Virt...
New-Folder [-Name] <String>...
New-HardDisk [-VM] <Virtual...
New-NetworkAdapter [-VM] <U...
New-OSCustomizationSpec [-OS...
New-ResourcePool [-Locati...
New-Snapshot [-VM] <Virtual...
New-StatInterval [-Name] <St...
New-Template [-Name] <String>...
New-VIcredentialStoreItem [-...
```

## Example 1... List all virtual machines

[VI Toolkit] C:\> Get-VM

Name	PowerState	Num CPUs	Memory (MB)
ELGDEV02	PoweredOn	1	384
Test template	PoweredOff	1	384
ELGDEV03	PoweredOn	1	384
VMGVIC01	PoweredOn	1	512
VMGVCT01	PoweredOff	1	384

## Example 2... List all VM partition sizes from inside the VM

```
ForEach ($VM in (Get-VM | Get-View)){($VM.Guest.Disk | Select
@{N="Name";E={$VM.Name}}, DiskPath,
@{N="Capacity(MB)";E={[math]::truncate($_.Capacity / 1MB)}},
@{N="Free Space(MB)";E={[math]::truncate($_.FreeSpace / 1MB)}},
@{N="Free Space %";E={[math]::Round(((100 * ($_.FreeSpace)) /
($_.Capacity)),0)}}) | Format-Table}
```

Name	DiskPath	Capacity(MB)	Free Space(MB)	Free Space %
ELGFIL01	C:\	8181	2838	35
ELGFIL01	D:\	61436	14539	24
VMGADC01	C:\	8181	3974	49
VMGWEB01	/boot	235	211	90

## Example 3... Create a new virtual machine and add it to a Resource Pool

```
New-VM -Name DevelopmentVM2 -VMHost (Get-VMHost Host01.mycompany.com) -ResourcePool
(Get-ResourcePool DevelopmentResources) -DiskMB 4000 -MemoryMB 256 -RunAsync
```

## Example 4... Create 100 new virtual machines !

```
(1..100) | ForEach {New-VM -Name VM$_ -VMHost (Get-VMHost Host01.mycompany.com) -DiskMB 50
-MemoryMB 1024 -RunAsync}
```

## Example 5... Delete 100 virtual machines

```
(1..100) | ForEach {Remove-VM VM$_ -RunAsync}
```

What about the other 20% - Get-View + SDK = Fun !



# VMware VI Toolkit

# Scripts

**Guest Provisioning System**

File Tools Help

**Virtual Center**

Virtual Center: 10.21.10.80

**VI Options**

VMhost: 10.16.83.241 Folder: Datacenters  
Datastore: 200GB\_Shared Resource pool: Host Pool

**Guest Options**

Template: VC VM  
Memory: 512mb  
vCPU: 1  
Boot delay (ms):  
BIOS setup: ☐  
Poweron: ☒

**Network(s)**

Demo Network

**Disk(s)**

4 Gb

**OS Options**

Computename: VC 6  
IP address: 10.24.1.10  
Subnetmask: 255.0.0.0  
Gateway: 10.24.1.254  
DNS server:  
Fullname: [The 6th VC clone]  
Organisation:


OS Key:  
Local admin pswd:  
Timezone:  
**Join Domain**  
Domain:  
Account:  
Password:

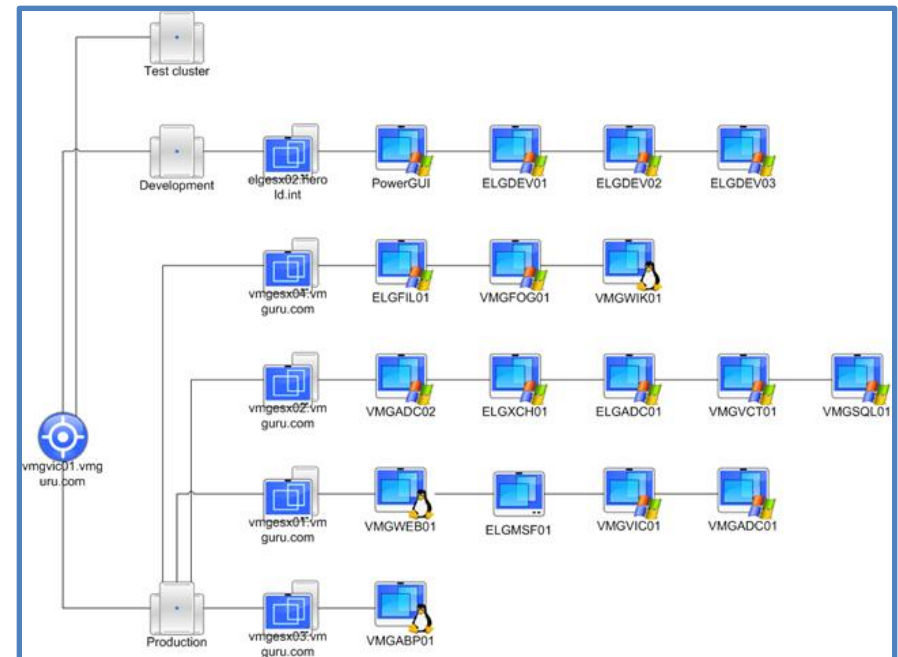
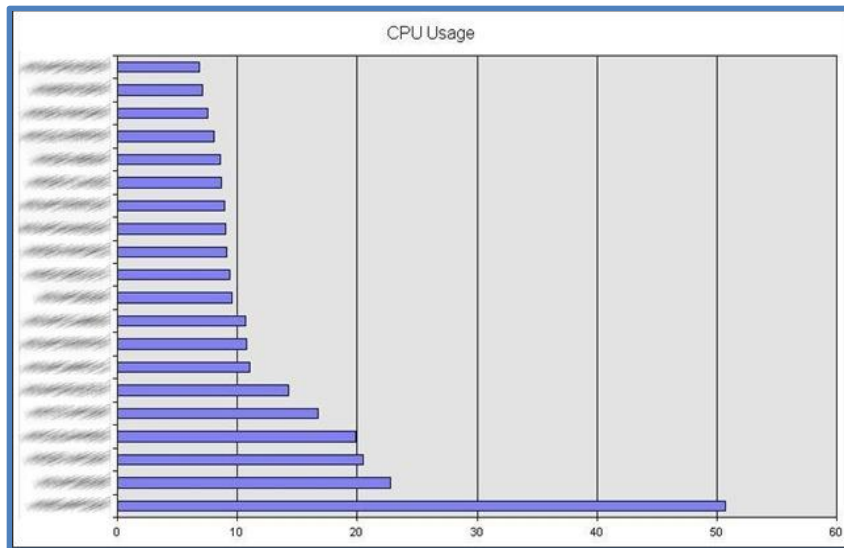
**Guest(s)**

VC 1  
VC 2  
VC 3  
VC 4  
VC 5

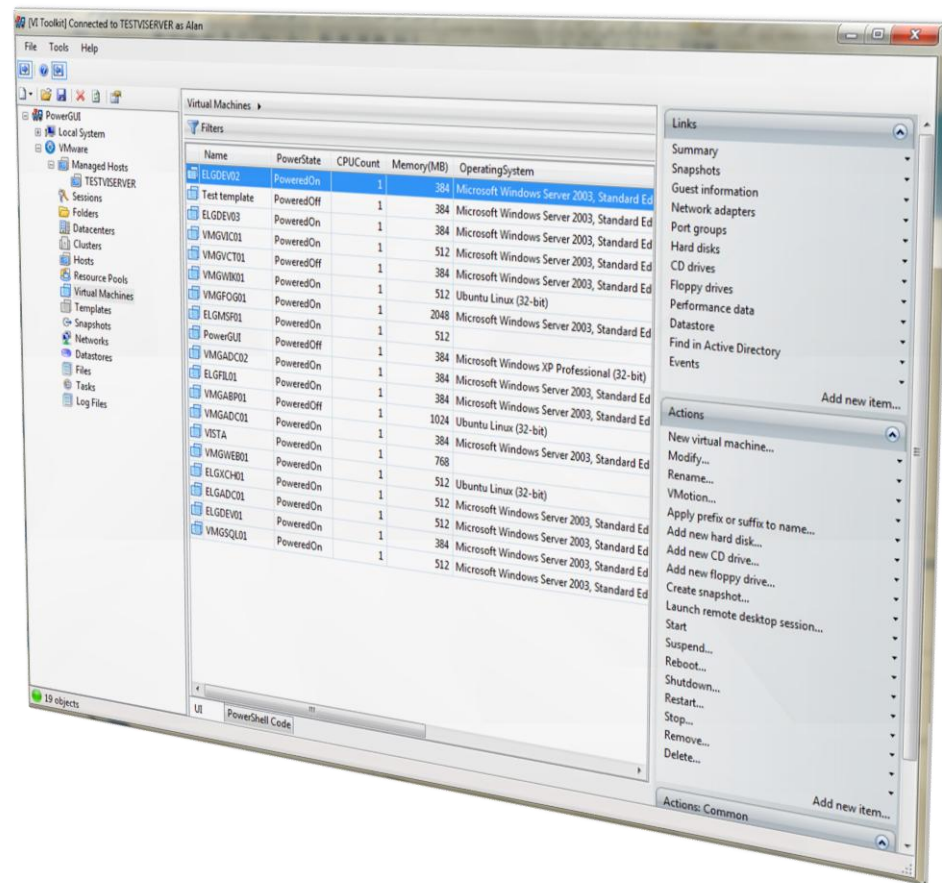
**Test**

Summary Virtual Machines Hosts

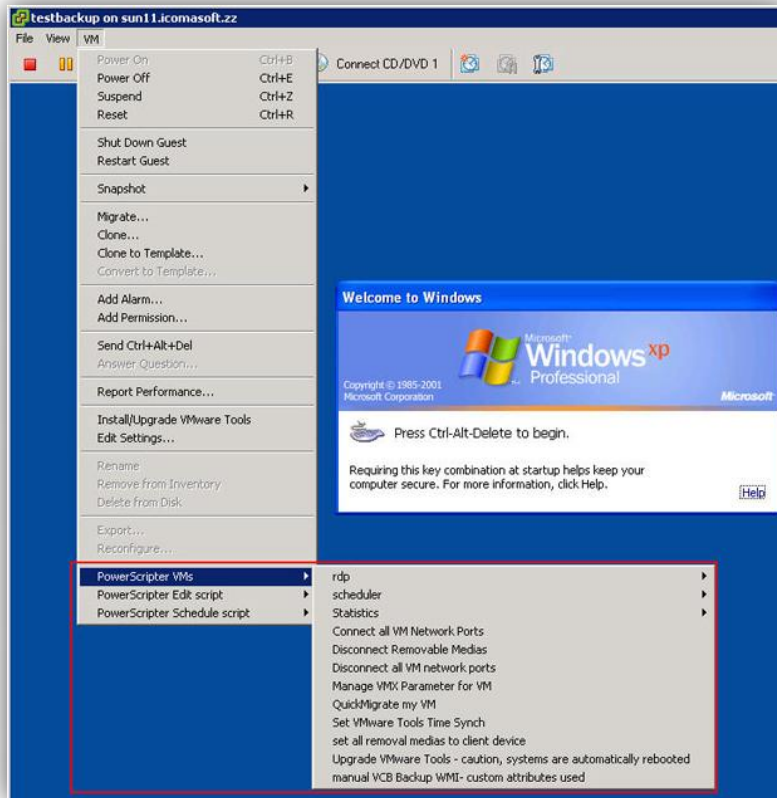
Name	Snapshots
 TST	1



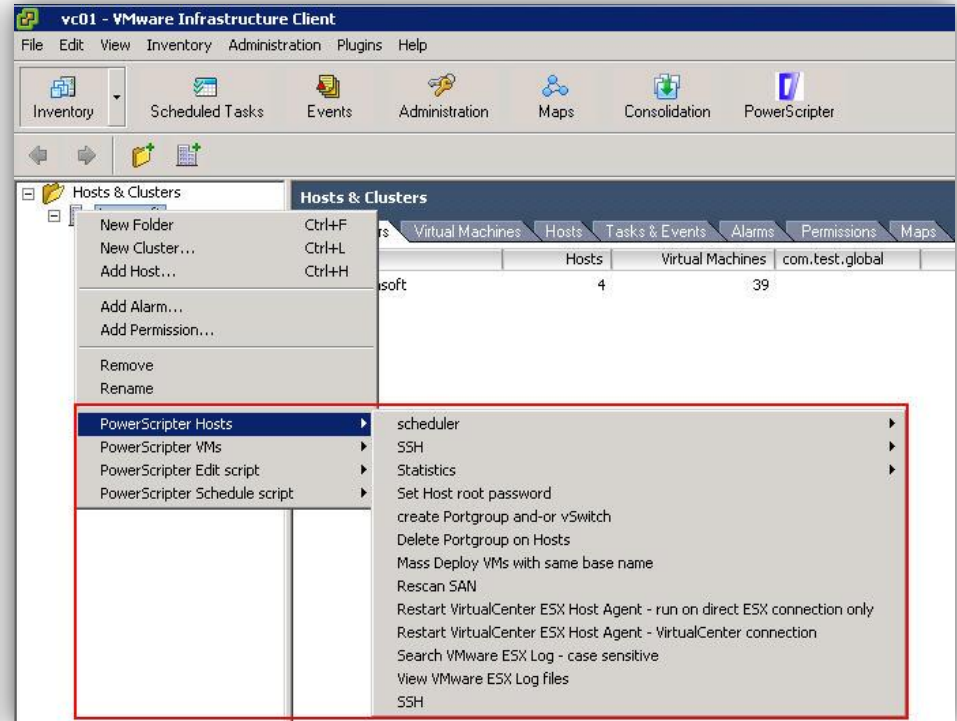
- Management of multiple VMware Virtual Center, ESX, ESXi and VMware Server hosts
- Single sign-on to multiple hosts using the same credentials
- Ability to browse through inventory hierarchies on Virtual Center
- Ability to view topological data for any managed server
- Management of datacenters, clusters, resource pools, hosts, folders, virtual machines, templates, snapshots, networks, datastores, files, tasks and log files
- Automatic generation of multiple infrastructure diagrams in Visio







- Save 2 hours daily due automation
  - Simplify monitoring and analysis
  - Schedule recurring tasks
  - Integrate your own functions into VMware
- Choose from more than 35 standard functions (templates)



- Administrate one or one-thousand virtual machines
- Cover every aspect of VMware VI administration with a best-of-breed toolkit
- Get reports on all script executions
- VMware Management Redefined

**How is PowerShell accepted by a non Microsoft company and their users ?**



# Demo & Questions

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