从 ESXi 日志包手动提取 tdlog 信息

1. Reconstruct log files

ESXi 日志包解压后，里面有些日志文件默认是分片的，比如 vsish 文件，被分为多个带 FRAG 的子文件。查看这些文件，需要对这些文件进行整合，如何 reconstruct ESXi 日志文件:

1) 将 ESXi 日志包拷贝到版本 7.0/8.0 的 ESXi 里
2) 解压: tar zxvf <esxi-*.tgz>，比如:

```
# tar zxvf esx-w2-tse-d13.wsl.vmware.com-2024-05-30--09.32-2160407.tgz
```

3) 对解压后的 ESXi 日志文件夹进行 reconstruct:

```
# vm-support -r esx-w2-tse-d13.wsl.vmware.com-2024-05-30--09.32-2160407
```

说明:

1. 每个部分的信息包括: 1) 对应 tdlog result 文件的部分 2) 信息获取路径 3) 对应 ESXi 日志文件里信息
2. 以下'获取路径'的部分是指已经在解压后日志文件夹目录下面

1. General Info

2.1 hostname

```
- hostname: TVS101.transglobe.com.tw | uptime: 289.3 days | uptime: 416596 minutes
  # my uptime is '289.3' days, the GSS average is '106.6' days, based on '8963' samples
```

获取路径: commands/esxcfg-info_-a.txt

Hostname:

```
    \==+Dns Config :
       |----Netstack Instance.....................................defaultTcpipStack
       |----Hostname..............................................TVS101
       |----Domain................................................transglobe.com.tw
       |----Search List...........................................
       |----User Search List......................................
       |----System Search List....................................
       |----Primary Name Server...................................10.67.0.91
       |----Secondary Name Server.................................10.67.0.92
```

uptime: (*数值单位是微秒*)

```
 |----Host Uptime.............................................24995540696516
```

2.2 version

```
- this is VMware ESXi 7.0.3 build-21053776
  # unable to decode, build '21053776' either missing in KB2143832 or scraping the web page has failed
```

获取路径: commands/vmware_-vl.txt

```
VMware ESXi 7.0.3 build-21053776
VMware ESXi 7.0 Update 3
```

2.3 license

```
- the host has the following license key/edition installed
  H541H-8TL42-189GN-0H900-18JKN | esx.enterprisePlus.cpuPackageCoreLimited | vSphere 7 Enterprise Plus
```

获取路径：commands/vmware-vimdump_-o----U-dcui.txt

```
         (vmodl.DynamicProperty) {
            name = 'licenses',
            val = (vim.LicenseManager.LicenseInfo) [
               (vim.LicenseManager.LicenseInfo) {
                  dynamicType = <unset>,
                  dynamicProperty = (vmodl.DynamicProperty) [],
                  licenseKey = 'H541H-8TL42-189GN-0H900-18JKN',
                  editionKey = 'esx.enterprisePlus.cpuPackageCoreLimited',
                  name = 'vSphere 7 Enterprise Plus',
                  total = 6,
                  used = 2,
                  costUnit = 'cpuPackage:32core',
```

2.4 software profile

```
- the following ESXi70 updates have been installed (+ date)
  # software acceptance level: 'PartnerSupported'
  # translation from strict to unsupported: VMwareCertified -> VMwareAccepted -> PartnerSupported -> CommunitySupported ('https://via.vmw.com/CU2NXj')
    # WARNING: this seems to be an OEM image (vendor created), see KB67959, implications are explained here: https://via.vmw.com/rFwC4e
  ...
  Name:              (Updated) ESXi-7.0U3j-21053776-standard
  Vendor:            Dell Inc.
  Creation Time:     2023-11-05T02:21:31
  Modification Time: 2024-05-09T10:10:23
```

获取路径：commands/localcli_software-profile-get.txt

```
(Updated) ESXi-7.0U3j-21053776-standard:
   Name: (Updated) ESXi-7.0U3j-21053776-standard
   Vendor: Dell Inc.
   Creation Time: 2023-11-05T02:21:31
   Modification Time: 2024-05-09T10:10:23
```

2.5 ntp

```
- the host is synchronising with '3' NTP server
  server 10.67.0.37
  server 10.67.0.91
  server 10.67.0.92
```

获取路径：commands/vmware-vimdump_-o----U-dcui.txt

```
                  systemClockProtocol = 'ntp',
                  ntpConfig = (vim.host.NtpConfig) {
                     dynamicType = <unset>,
                     dynamicProperty = (vmodl.DynamicProperty) [],
                     server = (str) [
                        '10.67.0.37',
                        '10.67.0.91',
                        '10.67.0.92'
                     ],
```

2.6 dns

```
- the host is using the following DNS server (/etc/resolv.conf)
  nameserver 10.67.0.91
  nameserver 10.67.0.92
```

获取路径：etc/resolv.conf

```
nameserver 10.67.0.91
nameserver 10.67.0.92
```

2.7 scratch

```
- scratch location, see 'https://via.vmw.com/ESx7' what it is used for
  # configured to '/vmfs/volumes/64ad7c8a-f676e08d-7707-00620be3b3b0'
    # decode datastore UUID from 'localcli_storage-vmfs-extent-list.txt'
    Volume Name                                VMFS UUID                           Extent Number  Device Name                              Partition
    -----------------------------------------  ----------------------------------  -------------  ---------------------------------------  ---------
    OSDATA-64ad7c8a-f676e08d-7707-00620be3b3b0  64ad7c8a-f676e08d-7707-00620be3b3b0              0  naa.6c4cbe10a75cdb002c20d0eeab7a16c3          7
  # the 'Syslog.global.logDir' config points to '[] /scratch/log', see KB2151209 and 'https://via.vmw.com/ESx8
    # HINT: this is the default and if scratch is on persistent storage like VMFS/VMFS-L or vFAT, than the host is happy
```

获取路径：commands/vmware-vimdump_-o----U-dcui.txt

```
            (vim.option.OptionValue) {
               dynamicType = <unset>,
               dynamicProperty = (vmodl.DynamicProperty) [],
               key = 'ScratchConfig.ConfiguredScratchLocation',
               value = '/vmfs/volumes/64ad7c8a-f676e08d-7707-00620be3b3b0'
            },
            (vim.option.OptionValue) {
               dynamicType = <unset>,
               dynamicProperty = (vmodl.DynamicProperty) [],
               key = 'ScratchConfig.CurrentScratchLocation',
               value = '/vmfs/volumes/64ad7c8a-f676e08d-7707-00620be3b3b0'
            },
```

2.8 boot

```
- this ESXi70 host boots from
  UUID: c37a0c0c-754b771a-fabe-0ec2cc4ffd65
  Display Name: Local DELL Disk (naa.6c4cbe10a75cdb002c20d0eeab7a16c3)
  Vendor: DELL | Model: PERC H745 Frnt | Is Local: true | Is SSD: false
```

获取路径：commands/vmkfstools_-P--v-10-bootbank.txt

```
UUID: c37a0c0c-754b771a-fabe-0ec2cc4ffd65
Logical device: naa.6c4cbe10a75cdb002c20d0eeab7a16c3:6
Partitions spanned (on "disks"):
        naa.6c4cbe10a75cdb002c20d0eeab7a16c3:6
```

2. Hardware Asset

3.1 server model

```
- server model and BIOS version
  Dell Inc. PowerEdge R750 | BIOS: 1.10.2 | Date (ISO-8601): 2023-03-03
  # this is a 'Dell Inc.' server, about '41.752%' of all other '8972' customers use this hardware vendor too
  # for the 'PowerEdge R750' model, the BIOS/date combination is also used by '12.727%' of all '220' Dell Inc.
```

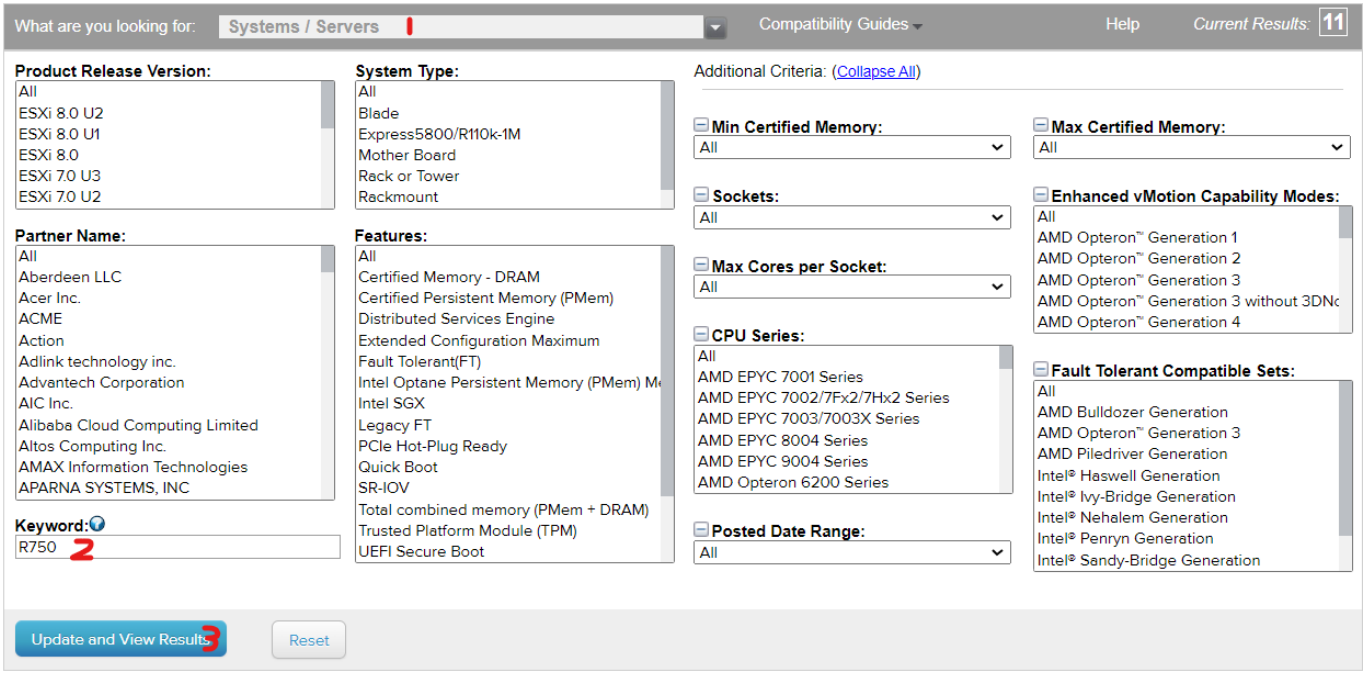
获取路径：commands/esxcfg-info_-a.txt

```
\==+Hardware Info :
   |----BIOS UUID.....................................0x4c 0x4c 0x45 0x44 0x0 0x56 0x46
   |----BIOS Vendor...................................Dell Inc.
   |----BIOS Version..................................1.10.2 (1.10)
   |----BIOS ReleaseDate..............................2023-03-03T00:00:00
   |----BIOS Asset Tag................................
   |----Product Name..................................PowerEdge R750
   |----Vendor Name...................................Dell Inc.
   |----Serial Number.................................2VF17Y3
   |----Enclosure Serial Number.......................2VF17Y3
   |----Hardware Uptime...............................24995636027332
   |----Ipmi Supported................................true
   |----BMC Version...................................6.10
```

3.2 server compatibility

```
- hardware compatibility check, server model, VMware Verification Service API, see 'https://via.vmw.com/vvs'
  [PowerEdge R750]: Compatible, FoundMatches[4] [test for 7.0 U3, CPU '0000:0000:0000:0110:0000:0110:1010:0110', BIOS '1.10.2']
  [1] [Rackmount] [id:51125] Dell PowerEdge R750
  [1] vcgLink = 'https://www.vmware.com/resources/compatibility/detail.php?deviceCategory=server&productid=51125'
  [1] picture = 'https://www.google.com/search?q=Dell%20PowerEdge%20R750&source=lnms&tbm=isch&sa=X'
  ----
  [2] [Rackmount] [id:52933] Dell PowerEdge R750
  [2] vcgLink = 'https://www.vmware.com/resources/compatibility/detail.php?deviceCategory=server&productid=52933'
```

获取路径：https://www.vmware.com/resources/compatibility/search.php



3.3 power policy

```
- Host Power Management (HPM), see KB1018206 and 'https://via.vmw.com/2KvHXQ'
  # vsish '/power/currentPolicy'
    Short name:dynamic  -->  Long name:Balanced  -->  Description:Reduce energy consumption with minimal performance compromise  -->  ID (profile):2
  # vsish '/power/hardwareSupport' (this may be empty or look incomplete, raw dump from vsi)
  # CPU power management:
  # about '59.400%' of the other GSS customers using the 'dynamic' policy
  # the total count is: 1x low | 4x custom | 3530x static | 5172x dynamic
```

获取路径：vsish -c commands/vsi_traverse_-s.txt

<vsish 命令在 ESXi 主机里，需要先将 ESXi 日志包上传到 ESXi 进行解压和 reconstruct>

```
/> cat /power/currentPolicy
Host power management policy {
   ID: 2
   Short name:dynamic
   Long name:Balanced
   Description:Reduce energy consumption with minimal performance compromise
}
```

3.4 cpu

```
- CPU type and how many
  Intel(R) Xeon(R) Gold 6346 CPU @ 3.10GHz
  Family: 0x06 , Model: 0x6a , Stepping: 0x06 , TSC Hz: 3092733861, Bus Hz: 24941405, Name: GenuineIntel
  # Hyperthreading, see KB57374 and KB55806
    active=true, supported=true, enabled=true, mitigated=true
  # reading CPUID leafs for '/hardware/cpu/cpuList/0', see 'https://via.vmw.com/j8GCFu' and 'https://via.vmw.com/nC60Wq' for dec
    00:CPUID leaf { EAX:0x0000001b EBX:0x756e6547 ECX:0x6c65746e EDX:0x49656e69
    01:CPUID leaf { EAX:0x000606a6 EBX:0x00800800 ECX:0x77fefbff EDX:0xbfebfbff
    80:CPUID leaf { EAX:0x80000008 EBX:0x00000000 ECX:0x00000000 EDX:0x00000000
    81:CPUID leaf { EAX:0x00000000 EBX:0x00000000 ECX:0x00000121 EDX:0x2c100800
    88:CPUID leaf { EAX:0x0000392e EBX:0x00000200 ECX:0x00000000 EDX:0x00000000
    8a:CPUID leaf { EAX:0x00000000 EBX:0x00000000 ECX:0x00000000 EDX:0x00000000
      # HINT: e.g. '81' (ESXi vsish) aka 'EAX=80000001h' (Wikipedia) aka 'Fn8000_0001_E[A-D]X' (AMD pdf) aka 'Function 80000001h
  # testing CPUID leafs '00 01 80 81 88 8a' for all '64' cores, except unique 'Local APIC ID at 1:CPUID EBX', bits 31:24, see 'h
    # [PASS] every one of the 64 cores has the same features enabled, very likely identical physical CPUs
  Number of sockets: 2
  Number of NUMA nodes: 2
  Number of cores (total): 32
```

获取路径：vsish -c commands/vsi_traverse_-s.txt

```
/> cat /hardware/cpu/cpuModelName
Intel(R) Xeon(R) Gold 6346 CPU @ 3.10GHz
/>
/> cat /hardware/cpu/cpuInfo
CPU global information {
   Hyperthreading state: 3 -> enabled
   HV state: 3 -> HV Enabled
   Number of packages:2
   Number of dies:2
   Number of tiles:2
   Number of modules:2
   Number of cores:32
   Number of CPUs (threads):64
   Number of licensable cores:32
   SLC64 capable:0
   NVOA:0
   Hyperthreading security vulnerability mitigated:1
}
```

3.5 pci device

```
- PCI devices and slot capabilities
  Device  Location (lspci)  Passthru Cap?  Parent Device           Dependent Device        Class                Slot Description (esxcfg-info)
  ------  ----------------  -------------  -------------           ----------------        -----                ------------------------------
  vmhba0  0000:65:00.0      true           PCI 0:100:4:0           PCI 0:101:0:0           RAID bus controller  SL3 RAID
  vmhba1  0000:00:11.5      false          not in esxcfg-info.txt  not in esxcfg-info.txt  SATA controller      not in esxcfg-info.txt
  vmhba2  0000:00:17.0      false          not in esxcfg-info.txt  not in esxcfg-info.txt  SATA controller      not in esxcfg-info.txt
  vmhba3  0000:b1:00.0      true           PCI 0:176:2:0           PCI 0:176:2:0           Fibre Channel        PCIe Slot 5
  vmhba4  0000:b1:00.1      true           PCI 0:176:2:0           PCI 0:176:2:0           Fibre Channel        PCIe Slot 5
  vmnic0  0000:04:00.0      true           PCI 0:0:28:5            PCI 0:4:0:0             Ethernet controller  Embedded NIC 1
  vmnic1  0000:04:00.1      true           PCI 0:0:28:5            PCI 0:4:0:1             Ethernet controller  Embedded NIC 2
  vmnic2  0000:31:00.0      true           PCI 0:48:4:0            PCI 0:49:0:0            Ethernet controller  Integrated NIC 1 Port 1-1
  vmnic3  0000:31:00.1      true           PCI 0:48:4:0            PCI 0:49:0:1            Ethernet controller  Integrated NIC 1 Port 2-1
  vmnic4  0000:b2:00.0      true           PCI 0:176:4:0           PCI 0:178:0:0           Ethernet controller  PCIe Slot 4
  vmnic5  0000:b2:00.1      true           PCI 0:176:4:0           PCI 0:178:0:1           Ethernet controller  PCIe Slot 4
```

获取路径：commands/lspci.txt

```
xqiu@gss-prd-csp-1:035034396420:commands$ grep -E 'vmhba|vmnic' lspci.txt
0000:00:11.5 SATA controller: Intel Corporation Lewisburg SATA AHCI Controller [vmhba1]
0000:00:17.0 SATA controller: Intel Corporation Lewisburg SATA AHCI Controller [vmhba2]
0000:04:00.0 Ethernet controller: Broadcom Corporation NetXtreme BCM5720 Gigabit Ethernet [vmnic0]
0000:04:00.1 Ethernet controller: Broadcom Corporation NetXtreme BCM5720 Gigabit Ethernet [vmnic1]
0000:31:00.0 Ethernet controller: Broadcom NetXtreme E-Series Advanced Dual-port 10Gb SFP+ Ethernet OCP 3.0 Adapter [vmnic2]
0000:31:00.1 Ethernet controller: Broadcom NetXtreme E-Series Advanced Dual-port 10Gb SFP+ Ethernet OCP 3.0 Adapter [vmnic3]
0000:65:00.0 RAID bus controller: Broadcom Dell PERC H745 Front [vmhba0]
0000:b1:00.0 Fibre Channel: QLogic Corp QLE2700/QLE2800 32/64G SP/DP Fibre Channel Adapter [vmhba3]
0000:b1:00.1 Fibre Channel: QLogic Corp QLE2700/QLE2800 32/64G SP/DP Fibre Channel Adapter [vmhba4]
0000:b2:00.0 Ethernet controller: Broadcom BCM57416 NetXtreme-E 10GBASE-T RDMA Ethernet Controller [vmnic4]
0000:b2:00.1 Ethernet controller: Broadcom BCM57416 NetXtreme-E 10GBASE-T RDMA Ethernet Controller [vmnic5]
```

3.6 memory

```
- RAM details
  Total amount of RAM: 1023 GB
  Free (as seen in the Web Client): 22 %
```

获取路径：commands/esxcfg-info_-a.txt

```
        \==+Group Capacity :
           |----Total CPU.....................................98975
           |----Total Memory.....................................1023.09 GB
           |----Reserved CPU.....................................10732
           |----Reserved Memory.....................................35.51 GB
```

3. Network

4.1 vswitch

```
- standard vSwitch configuration, from 'esxcfg-vswitch.txt'
  Switch Name      Num Ports   Used Ports  Configured Ports  MTU     Uplinks
  vSwitch0         9216        6           128               1500    vmnic0,vmnic1

  PortGroup Name                          VLAN ID  Used Ports  Uplinks
  vSS_72_ESXi                             0        0           vmnic0,vmnic1
  Management Network                      0        1           vmnic0,vmnic1

  DVS Name         Num Ports   Used Ports  Configured Ports  MTU     Uplinks
  DSwitch Manager  9216        41          512               1500    vmnic3,vmnic2
```

获取路径：commands/esxcfg-vswitch_-l.txt

```
Switch Name      Num Ports   Used Ports  Configured Ports  MTU     Uplinks
vSwitch0         9216        6           128               1500    vmnic0,vmnic1

  PortGroup Name                          VLAN ID  Used Ports  Uplinks
  vSS_72_ESXi                             0        0           vmnic0,vmnic1
  Management Network                      0        1           vmnic0,vmnic1

DVS Name         Num Ports   Used Ports  Configured Ports  MTU     Uplinks
DSwitch Manager  9216        41          512               1500    vmnic3,vmnic2

  DVPort ID                               In Use      Client
  1881                                    0
  1882                                    0
```

4.2 firewall

```
- ESXi firewall, from vsish '/vmkModules/esxfw/rulesets/<rule>/ruleset' --> 'enable status'
  # enabled (23) -> is allowed to communicate
    CIMHttpServer   dns             EMC_RP_Splitter  HBR         NFC         snmp       trusted-infrastructure-kmxa
    CIMHttpsServer  DVSSync         faultTolerance   iofiltervp  ntpClient   sshServer  updateManager
    dhcp            dynamicruleset  fdm
  # disabled (35) -> is NOT allowed to communicate
    activeDirectoryAll  DVFilter            etcdPeerComm  httpClient  nfs41Client  pvrdma            settingsd  trus
    CIMSLP              esxio-orchestrator  ftpClient     ipfam       nfsClient    rdt               sshClient  vdfs
    cmmds               esxupdate           gdbserver     iSCSI       nvmetcp      remoteSerialPort  syslog     vic-
    DHCPv6              etcdClientComm      gstored       iwarp-pm    ptpd
```

获取路径：vsish -c commands/vsi_traverse_-s.txt

vmkModules/esxfw/rulesets/<rule>/ruleset' --> 'enable status'

```
/vmkModules/esxfw/rulesets/NFC/> cat /vmkModules/esxfw/rulesets/NFC/ruleset
ESXFW ruleset {
   ID of this ruleset:NFC
   Filtering action: 0 -> Pass
   enable status:1
   must have:0
   all IP allowed?:1
}
```

4.3 vmk address

```
- vmkernel ports, from 'esxcfg-vmknic_-l.txt', without IPv6
  # for IPv6 values, review 'esxcfg-vmknic_-l.txt' manual
  Interface  Port Group/DVPort/Opaque Network        IP Family IP Address                              Netmask         Broadcast
  vmk0       Management Network                      IPv4      10.67.72.101                            255.255.255.0   10.67.72.255
  vmk1       500                                     IPv4      192.168.0.101                           255.255.255.0   192.168.0.255
  vmk2       1888                                    IPv4      192.168.1.101                           255.255.255.0   192.168.1.255
  vmk3       57                                      IPv4      192.168.68.101                          255.255.255.0   192.168.68.255
  vmk4       1447                                    IPv4      10.67.81.198                            255.255.255.0   10.67.81.255
```

获取路径：commands/esxcfg-vmknic_-l.txt

```
Interface  Port Group/DVPort/Opaque Network        IP Family IP Address                              Netmask         Broadcast
vmk0       Management Network                      IPv4      10.67.72.101                            255.255.255.0   10.67.72.255
vmk1       500                                     IPv4      192.168.0.101                           255.255.255.0   192.168.0.255
vmk2       1888                                    IPv4      192.168.1.101                           255.255.255.0   192.168.1.255
vmk3       57                                      IPv4      192.168.68.101                          255.255.255.0   192.168.68.255
vmk4       1447                                    IPv4      10.67.81.198                            255.255.255.0   10.67.81.255
```

4.4 vmk tags

```
- vmkernel ports, roles and stacks, see 'https://via.vmw.com/gll5BE'
    Interface  NetstackInstance    Tags
    ---------  ----------------    ----
    vmk0       defaultTcpipStack   Management
    vmk1       defaultTcpipStack   blank in esxcfg-info_-a.txt
    vmk2       defaultTcpipStack   blank in esxcfg-info_-a.txt
    vmk3       defaultTcpipStack   blank in esxcfg-info_-a.txt
    vmk4       defaultTcpipStack   vSphereProvisioning, Management, VMotion
```

获取路径：commands/esxcfg-info_-a.txt

```
            \==+VmKernel Nic :
               |----Port Group.....................................Management Network
               |----Netstack Instance.............................defaultTcpipStack
               |----Interface......................................vmk0
               |----Index..........................................0
               |----Port ID........................................67108877
               |----MTU............................................1500
               |----TSO MSS........................................65535
               |----Mac Address....................................ec:2a:72:ef:4d:2c
               |----Tags...........................................Management
```

4.5 vswitch ports

- dvSwitch ports details | since there are 2 dvSwitches, duplicate portkey values are possible, manual check recommended

endpoint	portKey	portID	portgroupKey	DvsPortset	teamUplink	teaming	name	vlan
DLREBWS.eth0	1377	100665204	dvportgroup-2095	DvsPortset-0	LACP	LACP,	vDS_67_UAT	VLAN 67
DLREPAPS4-8-10.67.67.37(base.eth0	1744	100665255	dvportgroup-2095	DvsPortset-0	LACP	LACP,	vDS_67_UAT	VLAN 67
DLREPAPS4-8-10.67.67.37(base.eth1	1752	100665256	dvportgroup-2217	DvsPortset-0	LACP	LACP,	vDS_175_VDI	VLAN 175
PPLRMPOSPRE1-10.67.67.58.eth0	324	100665131	dvportgroup-2095	DvsPortset-0	LACP	LACP,	vDS_67_UAT	VLAN 67
S3LRGLSTA01.eth0	1575	100665363	dvportgroup-2095	DvsPortset-0	LACP	LACP,	vDS_67_UAT	VLAN 67
SLRKONG.eth0	147	100665429	dvportgroup-2217	DvsPortset-0	LACP	LACP,	vDS_175_VDI	VLAN 175
SLRKONG.eth1	66	100665430	dvportgroup-2101	DvsPortset-0	LACP	LACP,	vDS_101_TGL	VLAN 101
SLRTGLAP1-10.67.67.127.eth0	320	100665193	dvportgroup-2095	DvsPortset-0	LACP	LACP,	vDS_67_UAT	VLAN 67
SMWEPORTALWEB2.eth0	1973	100665336	dvportgroup-16268	DvsPortset-0	LACP	LACP,	vDS_75_UAT	VLAN 75
SRLODSESP1-10.67.67.181.eth0	472	100665142	dvportgroup-2095	DvsPortset-0	LACP	LACP,	vDS_67_UAT	VLAN 67
TLRSASRPS1-10.67.70.147.eth0	1433	100665353	dvportgroup-2096	DvsPortset-0	LACP	LACP,	vDS_70_UAT	VLAN 70
TMWAFINSDB1-10.67.70.74.eth0	892	100665136	dvportgroup-2096	DvsPortset-0	LACP	LACP,	vDS_70_UAT	VLAN 70
TMWDC1.eth0	1004	100665411	dvportgroup-2096	DvsPortset-0	LACP	LACP,	vDS_70_UAT	VLAN 70
TMWDC2.eth0	1373	100665440	dvportgroup-2096	DvsPortset-0	LACP	LACP,	vDS_70_UAT	VLAN 70
TMWDC2.eth1	1811	100665441	dvportgroup-2101	DvsPortset-0	LACP	LACP,	vDS_101_TGL	VLAN 101

获取路径：commands/dump-cswitch-info.py.txt，vmware-vimdump_-o----U-dcui.txt，net-stats_-l.txt

1) 先在 dump-cswitch-info.py.txt 搜索虚拟机的名字

Client	PortID	DVPortID
Management	100663311	
LACP_MgmtPort	100663312	
LACP	100663313	
vmk1	100663318	500
vmk2	100663319	1888
vmnic2	2248146974	1885
Shadow of vmnic2	100663327	
vmnic3	2248146976	1886
Shadow of vmnic3	100663329	
PPLRMPOSPRE1-10.67.67.58.eth0	100665131	324
TMWTS1-10.67.67.190.eth0	100665134	321
TMWAFINSDB1-10.67.70.74.eth0	100665136	892
URLODSCF2-10.67.67.87.eth0	100665139	459
SRLODSESP1-10.67.67.181.eth0	100665142	472
TMWDITDBS1-10.67.70.115.eth0	100665143	253
URLESPJENKINS1.eth0	100665146	142
URLESPJENKINS1.eth1	100665147	1729
SLRTGLAP1-10.67.67.127.eth0	100665193	320
DLREBWS.eth0	100665204	1377

2) 在 vmware-vimdump_-o----U-dcui.txt 搜索 DvPortID

```
      backing = (vim.vm.device.VirtualEthernetCard.DistributedVirtualPortBackingInfo) {
         dynamicType = <unset>,
         dynamicProperty = (vmodl.DynamicProperty) [],
         port = (vim.dvs.PortConnection) {
            dynamicType = <unset>,
            dynamicProperty = (vmodl.DynamicProperty) [],
            switchUuid = '50 07 51 b8 ba fa aa 62-6e e5 57 91 ee 3b 5d 9b',
            portgroupKey = 'dvportgroup-2095',
            portKey = '1377',
            connectionCookie = 508315154
         }
```

3) 继续搜索 portgroupkey

```
   (vmodl.DynamicProperty) {
      name = 'config',
      val = (vim.dvs.DistributedVirtualPortgroup.ConfigInfo) {
         dynamicType = <unset>,
         dynamicProperty = (vmodl.DynamicProperty) [],
         key = 'dvportgroup-2095',
         name = 'vDS_67_UAT',
         numPorts = 0,
         distributedVirtualSwitch = 'vim.dvs.VmwareDistributedVirtualSwitch:50 07 51 b8 ba fa aa 62-6e
         defaultPortConfig = <unset>,
         description = <unset>,
         type = 'earlyBinding',
         backingType = 'standard',
```

4.6 vmnic

```
- Network Interface Cards from 'nicinfo.sh.txt'
  vmnic   PCI bus address  link  speed  duplex  MTU   driver   driver version  firmware version                MAC address
  -----   ---------------  ----  -----  ------  ---   ------   --------------  ----------------                -----------
  vmnic0  0000:04:00.0     Up    1000   Full    1500  ntg3     4.1.8.0         bc 1.39 ncsi 1.5.42.0           ec:2a:72:ef:4d:2c
  vmnic1  0000:04:00.1     Up    1000   Full    1500  ntg3     4.1.8.0         bc 1.39 ncsi 1.5.42.0           ec:2a:72:ef:4d:2d
  vmnic2  0000:31:00.0     Up    10000  Full    1500  bnxtnet  223.0.152.0     223.0.205.0 /pkg 22.31.13.70    00:62:0b:e3:b3:b0
  vmnic3  0000:31:00.1     Up    10000  Full    1500  bnxtnet  223.0.152.0     223.0.205.0 /pkg 22.31.13.70    00:62:0b:e3:b3:b1
  vmnic4  0000:b2:00.0     Down  0      Half    1500  bnxtnet  223.0.152.0     223.0.205.0 /pkg 22.31.13.70    14:23:f2:a4:49:80
  vmnic5  0000:b2:00.1     Up    10000  Full    1500  bnxtnet  223.0.152.0     223.0.205.0 /pkg 22.31.13.70    14:23:f2:a4:49:81
```

获取路径：commands/nicinfo.sh.txt, esxcfg-info_-a.txt

1） 先从 nicinfo.sh.txt 获取 vmnic 的 pci 地址

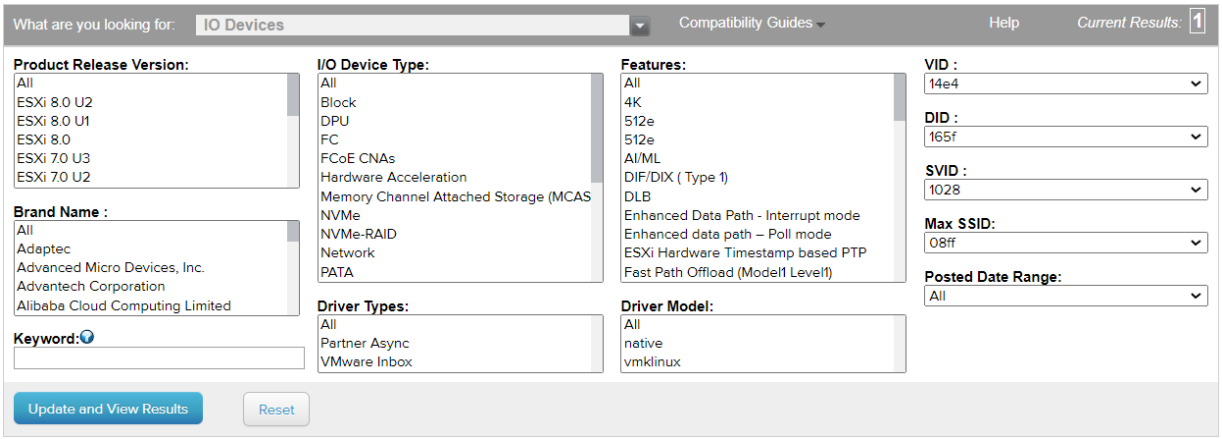
```
Network Interface Cards Information.

Name    PCI Device    Driver   Admin Status  Link Status  Speed  Duplex  MAC Address
------  ------------  -------  ------------  -----------  -----  ------  -----------------
vmnic0  0000:04:00.0  ntg3     Up            Up            1000  Full    ec:2a:72:ef:4d:2c
vmnic1  0000:04:00.1  ntg3     Up            Up            1000  Full    ec:2a:72:ef:4d:2d
vmnic2  0000:31:00.0  bnxtnet  Up            Up           10000  Full    00:62:0b:e3:b3:b0
vmnic3  0000:31:00.1  bnxtnet  Up            Up           10000  Full    00:62:0b:e3:b3:b1
vmnic4  0000:b2:00.0  bnxtnet  Up            Down             0  Half    14:23:f2:a4:49:80
vmnic5  0000:b2:00.1  bnxtnet  Up            Up           10000  Full    14:23:f2:a4:49:81
vusb0   Pseudo        cdce     Up            Up             100  Full    ec:2a:72:ef:83:63
```

2) 从 esxcfg-info_-a.txt 搜索 PCI 地址 Segment=0x0000,Bus=0x04,Slot=0x00,Function=0x00

```
      \==+PCI Device :
         |----Segment.....................................0x0000
         |----Bus.........................................0x04
         |----Slot........................................0x00
         |----Function....................................0x00
         |----Runtime Owner...............................vmkernel
         |----Has Configured Owner........................false
         |----Configured Owner............................vmkernel
         |----Vendor Id...................................0x14e4
         |----Device Id...................................0x165f
         |----Sub-Vendor Id...............................0x1028
         |----Sub-Device Id...............................0x08ff
         |----Vendor Name.................................Broadcom Corporation
         |----Device Name.................................NetXtreme BCM5720 Gigabit Ethernet
         |----Device Class................................512
         |----Device Class Name...........................Ethernet controller
         |----PIC Line....................................255
         |----Old IRQ.....................................255
         |----Vector......................................58
         |----PCI Pin.....................................0
         |----Spawned Bus.................................0
         |----Flags.......................................12289
```

3) 根据 VID, DID, SVID, SDID 查询 HCL 兼容性:



4.7 vmnic stats

```
- vmnic error statistics for standard counters only
  the     Rx          Tx          Rx              Rx       Tx              Tx       Rx   Tx   Rx    Tx
  vmnic   Pkts        Pkts        Bytes           GB       Bytes           GB       Err  Err  Drop  Drop  M-cast    Coll
  -----   ----        ----        -----           --       -----           --       ---  ---  ----  ----  ------    ----
  vmnic0  1491637420  1653262500  863717137516    804.4    3176587843247   2958.4   0    0    0     0     67931793  0
  vmnic1  501741745   171         114958730783    107.1    115901          0.0      0    0    0     0     67935597  0
  vmnic2  393546159   268400196   86335495548     80.4     41975137473     39.1     0    0    0     0     9244191   0
  vmnic3  304738949   280765827   113256998417    105.5    43858710254     40.8     0    0    0     0     5143382   0
  vmnic4  0           0           0               0.0      0               0.0      0    0    0     0     0         0
  vmnic5  22345698677 21818031910 31299368974651  29149.8  30567297425014  28468.0  0    0    0     0     43834872  0
    # hint: Rx Total Err = (('Rx Err' + 'Rx Drop' + 'Rx Len Err' + 'Rx Ovr Err' + 'Rx CRC Err' + 'Rx Frm Err' + 'Rx Fifo Err
```

获取路径：vsish -c commands/vsi_traverse_-s.txt

```
/> cat /net/pNics/vmnic0/stats
device {
   -- General Statistics:
   Rx Packets:1491637420
   Tx Packets:1653262500
   Rx Bytes:863717137516
   Tx Bytes:3176587843247
   Rx Errors:0
   Tx Errors:0
```

4. Storage

5.1 vmhba

```
- Host Bus Adapter (HBA, hardware only, lspci)
  # [HINT] filtered out: 'ata_piix|vmw_ahci|ahci|vmkata'
  vmhba    driver      driver version                  VID   DID   SVID  SDID  model
  -----    ------      --------------                  ---   ---   ----  ----  ------------------------------------------------
  vmhba0   lsi_mr3     7.722.02.00-1OEM.700.1.0.15843807  1000  0014  1028  1f3b  Broadcom Dell PERC H745 Front
  vmhba3   qlnativefc  5.3.80.0-1OEM.703.0.0.18644231  1077  2281  1077  02f3  QLogic Corp QLE2700/QLE2800 32/64G SP/DP Fibre Channel Adapter
  vmhba4   qlnativefc  5.3.80.0-1OEM.703.0.0.18644231  1077  2281  1077  02f3  QLogic Corp QLE2700/QLE2800 32/64G SP/DP Fibre Channel Adapter
  vmhba64  qlnativefc  5.3.80.0-1OEM.703.0.0.18644231  1077  2281  1077  02f3  QLogic Corp QLE2700/QLE2800 32/64G SP/DP Fibre Channel Adapter
  vmhba65  qlnativefc  5.3.80.0-1OEM.703.0.0.18644231  1077  2281  1077  02f3  QLogic Corp QLE2700/QLE2800 32/64G SP/DP Fibre Channel Adapter
```

获取路径：commands/localcli_storage-core-adapter-list.txt

```
HBA Name  Driver      Link State  UID                                   Capabilities         Description
--------  ----------  ----------  ------------------------------------  -------------------  -----------
vmhba0    lsi_mr3     link-n/a    sas.5c4cbe10a75cdb00                                       (0000:65:00.0) Broadcom Dell PERC H745 Front
vmhba1    vmw_ahci    link-n/a    sata.vmhba1                                                (0000:00:11.5) Intel Corporation Lewisburg SATA AHCI Controller
vmhba2    vmw_ahci    link-n/a    sata.vmhba2                                                (0000:00:17.0) Intel Corporation Lewisburg SATA AHCI Controller
vmhba3    qlnativefc  link-up     fc.2000f4c7aa0f4a3e:2100f4c7aa0f4a3e  Second Level Lun ID  (0000:b1:00.0) QLogic Corp QLE2700/QLE2800 32/64G SP/DP Fibre Channel Adapter
vmhba4    qlnativefc  link-up     fc.2000f4c7aa0f4a3f:2100f4c7aa0f4a3f  Second Level Lun ID  (0000:b1:00.1) QLogic Corp QLE2700/QLE2800 32/64G SP/DP Fibre Channel Adapter
vmhba64   qlnativefc  link-up     fc.2000f4c7aa0f4a3e:2100f4c7aa0f4a3e                       (0000:b1:00.0) QLogic Corp QLE2700/QLE2800 32/64G SP/DP Fibre Channel Adapter
vmhba65   qlnativefc  link-up     fc.2000f4c7aa0f4a3f:2100f4c7aa0f4a3f                       (0000:b1:00.1) QLogic Corp QLE2700/QLE2800 32/64G SP/DP Fibre Channel Adapter
```

获取 VID,DID,SVID,SDID

```
\==+FibreChannel SCSI Interface :
   |----Link State.....................................Up
   |----World Wide Port Number.....................0x2100f4c7aa0f4a3e
   |----World Wide Node Number.....................0x2000f4c7aa0f4a3e
   \==+SCSI Interface :
      |----Name.....................................vmhba3
      |----UID.....................................fc.2000f4c7aa0f4a3e:2100f4c7aa0f4a3e
      |----Driver...................................qlnativefc
      |----Queue Depth..............................2176
      |----Is Virtual...............................false
      |----Communication protocol...................SCSI
      \==+Data Integrity Information :
         |----Protection Mask.......................0x00000000
         |----Guard Type............................NO GUARD SUPPORT
      \==+PCI Device :
         |----Segment...............................0x0000
         |----Bus...................................0xb1
         |----Slot..................................0x00
         |----Function..............................0x00
         |----Runtime Owner.........................vmkernel
         |----Has Configured Owner..................false
         |----Configured Owner......................vmkernel
         |----Vendor Id.............................0x1077
         |----Device Id.............................0x2281
         |----Sub-Vendor Id.........................0x1077
         |----Sub-Device Id.........................0x02f3
         |----Vendor Name...........................QLogic Corp
         |----Device Name...........................QLE2700/QLE2800 32/64G SP/DP Fibre Channel Adapter
         |----Device Class..........................3076
```

5.2 LUN

```
- block level statistics for SCSI devices
  device                                CMDS         FCMDS  <--%   READS          FREAD  <--%   WRITES        FWRITE  <--%   RESV
  ------                                ----         -----  ----   -----          -----  ----   ------        ------  ----   ----
  naa.6c4cbe10a75cdb002c20d0eeab7a16c3  239695528    4      0.00%  6096046394     0      0.00%  4284279520    0       0.00%  3575843
  naa.60060160a7225400bfa90b65de61ab06  77767856     6      0.00%  3364109691     0      0.00%  2292996432    0       0.00%  0
  naa.60060160a7225400e5a60b65bc5fe0cb  152453502    7      0.00%  3772869220     0      0.00%  3787075305    0       0.00%  0
  naa.60060160a72254001aa90b654679f8d5  136326772    6      0.00%  2073228073     0      0.00%  8508553148    0       0.00%  0
  naa.60060160a72254004da80b650be74e52  52921967     7      0.00%  2026466388     0      0.00%  1449829592    0       0.00%  0
  naa.60060160a72254006caa0b65817d37ca  115450149    7      0.00%  3002547211     0      0.00%  2829103530    0       0.00%  0
  naa.60060160a72254009fa70b65cc6817f9  8134145288   7      0.00%  24527789774    0      0.00%  110273283024  0       0.00%  0
  naa.60060160a722540014a60b65b57198c0  139083772    6      0.00%  2251395363     0      0.00%  3675228347    0       0.00%  0
  naa.60060160a722540017ab0b65254a2aa9  267017915    361    0.00%  3198477139     0      0.00%  7969447167    0       0.00%  0
  naa.60060160a722540020ef1065cdc046f4  10349451     6      0.00%  61518022       0      0.00%  354033219     0       0.00%  0
```

获取路径：commands/localcli_storage-core-device-stats-get.txt

```
naa.60060160a722540017ab0b65254a2aa9:
   Device: naa.60060160a722540017ab0b65254a2aa9
   Successful Commands: 267027181
   Blocks Read: 3201630053
   Blocks Written: 7969497502
   Read Operations: 99941801
   Write Operations: 162155340
   Reserve Operations: 0
   Reservation Conflicts: 0
   Failed Commands: 362
   Failed Blocks Read: 0
   Failed Blocks Written: 0
   Failed Read Operations: 1
   Failed Write Operations: 354
   Failed Reserve Operations: 0
```

5.3 datastore

```
- VMFS datastore utilisation, LUN ID, topology, since the last reboot, sort by 'Commands' column
  Datastore Name                          naa / t10 / eui ID                 Volume UUID                           Commands
  --------------                          ------------------                 -----------                           --------
  ISO                                     naa.6006016004c048006e88316259b81ef5  62318c47-6c70c864-2756-48df37bc93e0  7339763
  U480_Shutdown                           naa.60060160a722540020ef1065cdc046f4  6510ef5b-cbf83e0e-74a7-d4f5ef34f7c0  8007398
  U480F_DB_03                             naa.60060160a72254004da80b650be74e52  650ba8cb-4c4d53a2-2f49-d4f5ef34f7c0  42499076
  U480F_L_03                              naa.60060160a7225400bfa90b65de61ab06  650baa0c-6fd78ac0-19b4-d4f5ef34f7c0  62609158
  OSDATA-64ad7c8a-f676e08d-7707-00620be3b3b0  naa.6c4cbe10a75cdb002c20d0eeab7a16c3  64ad7c8a-f676e08d-7707-00620be3b3b0  93235757
  Tvs101-Local datastore                  naa.6c4cbe10a75cdb002c20d0eeab7a16c3  64ad7c8a-00bbfe1f-5290-00620be3b3b0  95910836
```

获取路径：commands/localcli_storage-vmfs-extent-list.txt

Volume Name	VMFS UUID	Extent Number	Device Name	Partition
Tvs101-Local datastore	64ad7c8a-00bbfe1f-5290-00620be3b3b0	0	naa.6c4cbe10a75cdb002c20d0eeab7a16c3	8
U350F-TR01_L	60d2ef57-862d325c-4dcf-48df3791b240	0	naa.6006016004c048008c8bd1607d919600	1
U350F-TR02_L	60d2ef70-f6d0df5e-b07a-48df3791b240	0	naa.6006016004c048005e8cd1605d14ed59	1
ISO	62318c47-6c70c864-2756-48df37bc93e0	0	naa.6006016004c048006e88316259b81ef5	1
U350F-TR03_L	60d2ef85-e3df8548-5b71-48df3791b240	0	naa.6006016004c04800828cd160fa4883 9e	1
U350F-TR04_L	60d2efa7-6fb335a8-59fb-48df3791b240	0	naa.6006016004c048009f8cd16060fb5d34	1
U350F-TR05_L	60dd52c5-047ba462-2cfe-48df3791b240	0	naa.6006016004c048003e07dc60562c0e8a	1
U350F-TR06_L	6129e05c-a4823c70-e3c0-48df37d08320	0	naa.6006016004c048001fde296159699134	1
U350F-TR07_L	613f024e-1d0e4cc8-82c7-48df371eaba4	0	naa.6006016004c04800def43e615995bbab	1
U350F-TR08_W	615e528e-f07f0fce-1588-48df378e0d70	0	naa.6006016004c04800c74f5e611e8259a8	1
U350F-TR09_W	624166a1-64dcfcca-1719-48df376dd200	0	naa.6006016004c04800406641629bdc2114	1