H3Cloud OS集群环境安装显示安装包数量不一致问题处理经验案例

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一线在客户现场于物理机服务器安装H3Cloud OS E1137H10版本的集群环境时，发现两个Cluster节点安装的文件包数量不一致。 一个Cluster节点显示安装包为969个，另一个Cluster是973个。
而两台服务器的配置及型号一致，具体配置信息如下表所示：

云管理平台3台服务器配置	UN-R4900-G2-8LFF-C	H3C R4900 G2 8LFF CTO服务器
	UN-CPU-2697AV4-F	H3C R4900 G2 E5-2697AV4(2.6GHz/16核/40MB/145W) CPU模块(FIO)
	UN-DDR4-16G-1Rx4-R	16GB 1Rx4 PC4-19200R(DDR4-2400P)内存模块
	UN-HDD-600G-SAS-12G-10K-LFF	600GB 12G SAS 10K 3.5in EP 512n HDD通用硬盘模块
	UN-CAB-SAS HD 72S-0.72m-2*36A	Mini SAS HD转接电缆-0.72m-(Mini SAS HD 72pin直)-(2*(UL20744(30#2C+2D+AM)*8P+M+8C))-(2*(Mini SAS HD 36pin弯))
	UN-NIC-10GE-2P-530T	2端口10GE电接口网卡530T-UN
	UN-RS-3*FHHL-R4900	FHHL转接卡(支持3个X8 FHHL)
	UN-PSR550-12A-FIO	550W电源模块(FIO)
	UN-RK-2U-LFFEI	2U 简易机架导轨-UN
	UN-NIC-GE-4P-360T-L2	4端口千兆电接口LOM网卡-360T-L2

完成安装后，使用正常。

不涉及。

H3Cloud OS安装程序会判断当前服务器硬件配置的，有些包是和驱动相关的，不同配置服务器装的都不一样。另外服务器BIOS的设置会影响部门驱动程序。对于已完成安装的环境，可以在两个Cluster节点上执行命令“rpm -qa > /home/output.txt”将文件下载对比分析，具体安装文件包的区别。
对比具体文件的区别时，普通的文件对比工具是根据字符的位置来对比两个文件，而在分析过程中发现，安装文件包的先后顺序可能根据服务器的配置不同而不同，因此下面单独给出了一个Linux系统下的Shell脚本来对比文件。
Shell脚本的具体内容如下：

```
#!/usr/bin/bash
### compare two file content
###usage： ./twoFileCmp.sh  file1 file2

while read line
do
   #echo "File:  ${line}"
   grep "${line}*" $2 >/tmp/tmpfile
   linesNum=`wc -l /tmp/tmpfile | awk &#39;{print $1}&#39;`
   if [ $linesNum -eq 0 ];then
      echo "${line} ^~^ is not in $2"
   fi
   rm /tmp/tmpfile
done < $1
```

具体执行对比分析如下：

```
[root@cloudos fileComp]# ./twoFileCmp.sh  output_cluster227.txt  output_cluster228.txt
BDB2053 Freeing read locks for locker 0x34: 15990/140707951572992 ^~^ is not in output_cluster22
8.txt
BDB2053 Freeing read locks for locker 0x36: 15990/140707951572992 ^~^ is not in output_cluster22
8.txt
BDB2053 Freeing read locks for locker 0x37: 15990/140707951572992 ^~^ is not in output_cluster22
8.txt
BDB2053 Freeing read locks for locker 0x38: 15990/140707951572992 ^~^ is not in output_cluster22
8.txt
BDB2053 Freeing read locks for locker 0x39: 15990/140707951572992 ^~^ is not in output_cluster22
8.txt
BDB2053 Freeing read locks for locker 0x3a: 15990/140707951572992 ^~^ is not in output_cluster22
8.txt
BDB2053 Freeing read locks for locker 0x3b: 15990/140707951572992 ^~^ is not in output_cluster22
8.txt
BDB2053 Freeing read locks for locker 0x3c: 15990/140707951572992 ^~^ is not in output_cluster22
8.txt
```

BDB2053 Freeing read locks for locker 0x3d: 15990/140707951572992 ^~^ is not in output_cluster228.txt
BDB2053 Freeing read locks for locker 0x3e: 15990/140707951572992 ^~^ is not in output_cluster228.txt
BDB2053 Freeing read locks for locker 0x3f: 15990/140707951572992 ^~^ is not in output_cluster228.txt
BDB2053 Freeing read locks for locker 0x40: 15990/140707951572992 ^~^ is not in output_cluster228.txt
BDB2053 Freeing read locks for locker 0x41: 15990/140707951572992 ^~^ is not in output_cluster228.txt
grub2-2.02-0.44.el7.centos.x86_64 ^~^ is not in output_cluster228.txt
[root@cloudos fileComp]#
[root@cloudos fileComp]# ./twoFileCmp.sh output_cluster228.txt output_cluster227.txt
BDB2053 Freeing read locks for locker 0x3f: 16016/140614638761984 ^~^ is not in output_cluster227.txt
BDB2053 Freeing read locks for locker 0x41: 16016/140614638761984 ^~^ is not in output_cluster227.txt
BDB2053 Freeing read locks for locker 0x42: 16016/140614638761984 ^~^ is not in output_cluster227.txt
BDB2053 Freeing read locks for locker 0x43: 16016/140614638761984 ^~^ is not in output_cluster227.txt
BDB2053 Freeing read locks for locker 0x44: 16016/140614638761984 ^~^ is not in output_cluster227.txt
BDB2053 Freeing read locks for locker 0x45: 16016/140614638761984 ^~^ is not in output_cluster227.txt
BDB2053 Freeing read locks for locker 0x46: 16016/140614638761984 ^~^ is not in output_cluster227.txt
BDB2053 Freeing read locks for locker 0x47: 16016/140614638761984 ^~^ is not in output_cluster227.txt
BDB2053 Freeing read locks for locker 0x48: 16016/140614638761984 ^~^ is not in output_cluster227.txt
BDB2053 Freeing read locks for locker 0x49: 16016/140614638761984 ^~^ is not in output_cluster227.txt
BDB2053 Freeing read locks for locker 0x4a: 16016/140614638761984 ^~^ is not in output_cluster227.txt
BDB2053 Freeing read locks for locker 0x4b: 16016/140614638761984 ^~^ is not in output_cluster227.txt
BDB2053 Freeing read locks for locker 0x4c: 16016/140614638761984 ^~^ is not in output_cluster227.txt
grub2-efi-2.02-0.44.el7.centos.x86_64 ^~^ is not in output_cluster227.txt
mokutil-0.9-2.el7.x86_64 ^~^ is not in output_cluster227.txt
efibootmgr-0.8.0-10.el7.x86_64 ^~^ is not in output_cluster227.txt
efivar-libs-0.11-1.el7.x86_64 ^~^ is not in output_cluster227.txt
shim-0.9-2.el7.x86_64 ^~^ is not in output_cluster227.txt
[root@cloudos fileComp]#
根据上述输出发现不同的文件包安装情况如下：
1、客户的Cluster1（IP以227结尾的服务器）中安装不同于Cluster2（IP以228结尾的服务器）文件包为：
grub2-2.02-0.44.el7.centos.x86_64 ^~^ is not in output_cluster228.txt
2、客户的Cluster2（IP以228结尾的服务器）中安装不同于Cluster1（IP以227结尾的服务器）文件包为：
grub2-efi-2.02-0.44.el7.centos.x86_64 ^~^ is not in output_cluster227.txt
mokutil-0.9-2.el7.x86_64 ^~^ is not in output_cluster227.txt
efibootmgr-0.8.0-10.el7.x86_64 ^~^ is not in output_cluster227.txt
efivar-libs-0.11-1.el7.x86_64 ^~^ is not in output_cluster227.txt
shim-0.9-2.el7.x86_64 ^~^ is not in output_cluster227.txt
综上反推发现，两节点安装时选择的引导模式不同，IP为228结尾的节点2选择的是UEFI的方式。

安装前检查服务器的引导模式设置，集群中节点配置相同的引导模式。

不涉及。