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Testing Scripts

diskcheck.sh

`diskcheck.sh` is used to run short SMART health tests against multiple disks on a Linux server.

This script appears to have been written for server disk validation, hardware checking, or pre-deployment testing. It automates the process of starting SMART tests, waiting briefly for them to complete, and saving the collected result output under a filename based on the system product serial number.

```
#!/bin/bash
for ((i=1; i<=12; i++)) do
device=`lsblk |grep -A 40 sdb |awk '{print $1}' |sed -n "$i"p`

smartctl --test=short /dev/$device
done

sleep 120

serial=`ipmitool fru |grep "Product Serial" |awk '{print $4}' |head -n 1`

sh result.sh > test/"$serial".txt
```

The script loops through up to 12 disk entries found from `lsblk` output near `sdb`.

For each detected device, it runs:

```
smartctl --test=short /dev/<device>
```

After starting the SMART tests, the script waits for 120 seconds.

It then retrieves the server product serial number using:

```
ipmitool fru
```

Finally, it runs `result.sh` and saves the output to:

```
test/<product-serial>.txt
```

This script assumes a predictable server disk layout. The disk detection logic is based on parsing `lsblk` output around `sdb`, so it may need adjustment on systems with different disk naming, different drive counts, or different `lsblk` formatting.

The script also assumes that `result.sh` exists in the same working directory and that the `test/` directory already exists before execution.

spec-list-old.sh

record_specs.sh

Purpose

Used to collect and record server hardware specifications.

Script Description

The script collects hardware information from several system tools and formats the result into one inventory line.

It records:

- Server product name
- Delivery destination entered by the user
- Product serial number
- CPU model and quantity
- Memory size, quantity, and DIMM part number
- Onboard NIC information
- Intel i350, X540, and X550 NICs
- Mellanox ConnectX-4 NICs
- Emulex HBAs
- LSI 3008 IT/IR controllers
- LSI 3108 RAID controller
- Attached disks
- NVMe devices
- NVIDIA GPUs

Requirements

The script expects the following commands or tools to be available, depending on the hardware installed:

```
ipmitool
dmidecode
lspci
hbacmd
sas3ircu
storcli64
```

```
nvme
nvidia-smi
```

The script also expects this directory to exist:

```
/mac_sn/spec_list
```

Output

The output is appended to a file named by year and month:

```
/mac_sn/spec_list/YY-MM.txt
```

Example:

```
/mac_sn/spec_list/26-06.txt
```

Each server is written as one line using `||` separators.

General format:

```
ProductName || Date || DeliveryLocation || SerialNumber || HardwareSpecification
```

Notes

This script is written for a specific server preparation environment. It assumes that hardware detection tools such as `ipmitool`, `dmidecode`, `storcli64`, and `sas3ircu` are installed and that the server hardware follows expected naming patterns.

Some sections are tightly coupled to specific hardware models, including Intel i350, X540, X550, Mellanox ConnectX-4, Emulex HBAs, LSI 3008, and LSI 3108 controllers.

The script appends directly to `/mac_sn/spec_list/<YY-MM>.txt`, so the target directory must already exist before running the script.

Script Contents

```
#!/bin/bash
echo " runing . . . . ."

#delivery
#cpu;
#meminfo;
#onbor;
#server;
#i350;
#x540;
#connectx;
#hba;
#card3008;
#hard;
#onhardchek;
#nvME;

server(){
#echo "name in"
pname=`ipmitool fru |grep 'Product Name'| head -n1 |awk '{print $4}'`
}

cpu(){
#echo "cpu in"
cpuname=`dmidecode |grep -i cpu |grep Intel| head -n1  |awk '{print $4,$5}'`□#cpu name
cpuqty=`dmidecode |grep -i cpu |grep -c "$cpuname"` □□#cpu qty
}

onbor(){
#echo "onbord nic in"
oncardall=`dmidecode |grep -ic "Onboard X722 NIC*"`□□ #phy10G-2 / 1G - 4
if [ "$oncardall" != "0" ];then
□if [ $oncardall = "2" ];then
□□oncard=`echo "/ 10Gb DP PHY *1"`
□elif [ $oncardall = "4" ];then
□□oncard=`echo "/ 1Gb QP PHY *1"`□
□fi
fi
}
delivery(){
```

```
#echo "date in"
read -p " where is server delivered ? : " deli
}

meminfo(){

#echo "memory in"
local i=1
local j=2
memqty0=1
memqty1=0

memqty=`dmidecode |grep "Size: ..... MB" |awk '{print $2}'|sed 's/...$//'|grep -v Si |wc -l`
#mem  all qty
mem0=`dmidecode |grep "Size: ..... MB" |awk '{print $2}'|sed 's/...$//'|grep -v Si |head -n1 |tail -n1`

if [ "$memqty" != "0" ];then
□while [ "$i" -lt "$memqty" ]
□do
□□mem1=`dmidecode |grep "Size: ..... MB" |awk '{print $2}'|sed 's/...$//'|head -n+$j |tail -n+$j`
□□if [ "$mem0" = "$mem1" ]; then
□□□memsize0=$mem0
□□□let memqty0=$memqty0+1
□□elif [ "$mem0" != "$mem1" ]; then
□□□memsize1=$mem1
□□□let memqty1=$memqty1+1
□□fi

□□let i=$i+1
□□let j=$j+1
□done

□if [ "$memqty1" = "0" ];then
□□memory=`echo "$memsize0 GB DDR4 *$memqty0"`
□else
□□memory=`echo "$memsize0 GB DDR4 *$memqty0" / $memsize1 GB DDR4 *$memqty1`

□fi
```

```
if [ -z "$memsize0" ];then #one memory
memsize0=`dmidecode |grep "Size: ..... MB" |awk '{print $2}'|sed 's/...$//'`
memory=`echo "$memsize0 GB DDR4 *1"`
fi

elif [ "$memqty" = "0" ];then
memqty0=1
memqty1=0
memqty=`dmidecode |grep "Size: .. GB" |grep -v Range |awk '{print $2}' |wc -l` #mem  all qty
mem0=`dmidecode |grep "Size: .. GB"|grep -v Range |awk '{print $2}'|head -n1 |tail -n1`
i=1
memsize0=$mem0
while [ "$i" -lt "$memqty" ]
do
mem1=`dmidecode |grep "Size: .. GB"|grep -v Range |awk '{print $2}'|head -n+$j |tail -n+$j`

if [ "$mem0" = "$mem1" ]; then
memsize0=$mem0
let memqty0=$memqty0+1
elif [ "$mem0" != "$mem1" ]; then
memsize1=$mem1
let memqty1=$memqty1+1
fi

let i=$i+1
let j=$j+1
done

if [ "$memqty1" = "0" ];then
memory=`echo "$memsize0 GB DDR4 *$memqty0"`
else
memory=`echo "$memsize0 GB DDR4 *$memqty0" / $memsize1 GB DDR4 *$memqty1`

fi

if [ -z "$memsize0" ];then #one memory
memsize0=`dmidecode |grep "Size: .. GB" |grep -v Range |awk '{print $2}'`
memory=`echo "$memsize0 GB DDR4 *1"`
fi

fi
```

```
mem_dimm=`dmidecode -t 17 |grep Part |grep -v "NO DIMM"|awk '{print $3}'|head -n1`
#mem_dimm_qty=`dmidecode -t 17 |grep Part |grep -vc "NO DIMM"`
mem_dimm_qty=`dmidecode -t 17 |grep -ic "$mem_dimm "`
mem_type="($mem_dimm *$mem_dimm_qty)"

mem_dimm_qty=`dmidecode -t 17 |grep Part |grep -v "NO DIMM" |grep -vc "$mem_dimm"`

if [ "$mem_dimm_qty" != "0" ];then
mem_dimm1=`dmidecode -t 17 |grep Part |grep -v "NO DIMM" |grep -v "$mem_dimm" |awk '{print
$3}'|head -n1`
mem_dimm_qty=`dmidecode -t 17 |grep -c "$mem_dimm1"`
mem_type="$mem_type/($mem_dimm1 *$mem_dimm_qty)"
fi

}

i350(){
#echo "i350 in "
i350all=`lspci |grep -ic i350`
if [ "$i350all" != "0" ]; then
 i350t2=`lspci |grep -i i350 |awk '{print $1}' | sed 's/......//' |grep -ic 0`
 i350t4=`lspci |grep -i i350 |awk '{print $1}' | sed 's/......//' |grep -ic 3`

 let i350t2=$i350t2-$i350t4

 if [ "$i350t4" = "0" ];then
  i350t=`echo "/ i350-T2 *$i350t2"`
 elif [ "$i350t2" = "0" ];then
  i350t=`echo "/ i350-T4 *$i350t4"`
 else
  i350t=`echo "/ i350-T2 *$i350t2 / i350-T4 *$i350t4"`
 fi
fi
}

x540(){
#echo "x540 in"
x540all=`lspci |grep -ic x540`
if [ "$x540all" != "0" ]; then
 x540t2=`lspci |grep -ic x540`
```

```
□let x540t2=x540t2/2
□x540t=`echo "/ X540-T2 *$x540t2"`
fi
}

x550t2=`lspci |grep -i x550 -c`
if [ $x550t2 -eq 2 ]; then
□x550t2=`echo " / X550-T2 *1"`
fi

connectx(){
#echo "10G DP NIC in"
conn=`lspci |grep -ic 'connectX-4'`
if [ "$conn" != "0" ]; then
□dp10g=`lspci |grep -i 'connectx-4' |awk '{print $1}' | sed 's/....../' |grep -ic 0`
□qp10g=`lspci |grep -i 'connectx-4' |awk '{print $1}' | sed 's/....../' |grep -ic 3`
        x550t2=`lspci |grep -i x550 -c`
□if [ $x550t2 -eq 2 ]; then
□x550t2=`echo " / X550-T2 *2"`
□fi

□let dp10g=$dp10g-$qp10g

□if [ "$qp10g" = "0" ];then
□□connX=`echo "/ Mellanox 10G DP NIC *$dp10g"`
□elif [ "$dp10g" = "0" ];then
□□connX=`echo "/ Mellanox 10G QP NIC *$qp10g"`
□else□
□□connX=`echo "/ Mellanox 10G DP NIC *$dp10g / Mellanox 10G QP NIC *$qp10g"`
□□
□fi
fi
}

hba(){
#echo "hba in"
hball=`lspci |grep -ic emulex`
if [ "$hball" != "0" ];then
□hba16g=`hbacmd listhbas| grep -ic 'LPe16002B-M6'`
□if [ "$hba16g" != "0" ];then
□□let hba16g=$hba16g/2
```

```
□□hba16g=`echo "/ Emulex 16G HBA *$hba16g"`
□fi
□hba8g=`hbacmd listhbas| grep -ic 'LPe12002'`
□if [ "$hba8g" != "0" ];then
□□let hba8g=$hba8g/2
□□hba8g=`echo "/ Emulex 8G HBA *$hba8g"`
□fi
fi
}

card3008(){
#echo "3008 in"
c3008=`lspci |grep -c 3008`
local i=0

if [ "$c3008" != "0" ]; then
#sas3008ir=`sas3ircu list |grep -ic "sas3ir"`
#sas3008it=`sas3ircu list |grep -ic "sas3it"`
sas3008ir=`sas3ircu 0 display |grep -i "raid support"|grep -ic yes`
sas3008it=`sas3ircu 1 display |grep -i "raid support"|grep -ic no`

□if [ "$sas3008ir" = "1" ]; then
□□sas3008ir=`echo '/ LSI3008IR *1'`
□elif [ "$sas3008ir" = "2" ]; then
□□sas3008ir=`echo '/ LSI3008IR *2'`
□elif [ "$sas3008ir" = "0" ]; then
□□sas3008ir=""
□fi

□if [ "$sas3008it" = "1" ]; then
□□sas3008it=`echo '/ LSI3008IT *1'`□
□elif [ "$sas3008it" = "2" ]; then
□□sas3008it=`echo '/ LSI3008IT *2'`□
□elif [ "$sas3008it" = "0" ]; then
□□sas3008it=""
□fi

hard3008=`sas3ircu 0 display |grep -i "model number"|grep -vc Cub`
□until [ "$hard3008" = "0" ];
□do
□case $i in
```

```
□0)
□□hard3008_0=`sas3ircu 0 display |grep -i "model number" |awk '{print $4 ,$5}'|head -n1|tail -
n1`
□□hard3008qty0=`sas3ircu 0 display |grep -ic "$hard3008_0"`
□□hard3008all=`echo "/ $hard3008_0 *$hard3008qty0"`
□□let hard3008=$hard3008-$hard3008qty0
□;;
□1)
□□hard3008_1=`sas3ircu 0 display |grep -i "model number"|awk '{print $4 ,$5}'|grep -v
"$hard3008_0" |head -n1|tail -n1`
 □□
□□hard3008qty1=`sas3ircu 0 display |grep -ic "$hard3008_1"`
 □□hard3008all=`echo "/ $hard3008_0 *$hard3008qty0 / $hard3008_1 *$hard3008qty1"`
 □□
 □□let hard3008=$hard3008-$hard3008qty1
 □;;
□2)
□□hard3008_2=`sas3ircu 0 display |grep -i "model number" |awk '{print $4 ,$5}'|grep -ve
"$hard3008_0" -e "$hard3008_1"|head -n1|tail -n1`
 □□hard3008qty2=`sas3ircu 0 display |grep -ic "$hard3008_2"`□
 □□hard3008all=`echo "/ $hard3008_0 *$hard3008qty0 / $hard3008_1 *$hard3008qty1 / $hard3008_2
*$hard3008qty2"`
 □□
 □□let hard3008=$hard3008-$hard3008qty2
□;;
□3)
□□hard3008_3=`sas3ircu 0 display |grep -i "model number" |awk '{print $4 ,$5}'|grep -ve
"$hard3008_0" -e "$hard3008_1" -e "$hard3008_3"|head -n1|tail -n1`
□□hard3008qty3=`sas3ircu 0 display |grep -ic "$hard3008_3"`□
□□hard3008all=`echo "/ $hard3008_0 *$hard3008qty0 / $hard3008_1 *$hard3008qty1 / $hard3008_2
*$hard3008qty2 / $hard3008_3 *$hard3008qty3"`
□□
□□let hard3008=$hard3008-$hard3008qty3
□;;
□esac
□□let i=$i+1
□done

local i=0
hard3008t=`sas3ircu 1 display |grep -ic "model number"`
□if [ "$hard3008t" != "0" ]; then
```

```
□□until [ "$hard3008t" = "0" ];
□□do
□□case $i in
□□0)
□□□echo "0a"
□□□hard3008t_0=`sas3ircu 1 display |grep -i "model number" |awk '{print $4 ,$5}'|head -n1|tail
n1`
□□□hard3008tqty0=`sas3ircu 1 display |grep -ic "$hard3008t_0"`
□□□
□□□hard3008tall=`echo "/ $hard3008t_0 *$hard3008tqty0"`
□□□
□□□let hard3008t=$hard3008t-$hard3008tqty0
□□;;
□□1)
□□□echo 1b
□□□hard3008t_1=`sas3ircu 1 display |grep -i "model number"|awk '{print $4 ,$5}'|grep -v
"$hard3008t_0" |head -n1|tail -n1`
□□□hard3008tqty1=`sas3ircu 1 display |grep -ic "$hard3008t_1"`
□□□
□□□hard3008tall=`echo "/ $hard3008t_0 *$hard3008tqty0 / $hard3008t_1 *$hard3008tqty1"`
□□□
□□□let hard3008t=$hard3008t-$hard3008tqty1
□□;;
□□2)
□□□echo 2b
□□□hard3008t_2=`sas3ircu 1 display |grep -i "model number" |awk '{print $4 ,$5}'|grep -ve
"$hard3008t_0" -e "$hard3008t_1"|head -n1|tail -n1`
□□□hard3008tqty2=`sas3ircu 1 display |grep -ic "$hard3008t_2"`
□□□
□□□hard3008tall=`echo "/ $hard3008t_0 *$hard3008tqty0 / $hard3008t_1 *$hard3008tqty1 /
$hard3008t_2 *$hard3008tqty2"`
□□□
□□□let hard3008t=$hard3008t-$hard3008tqty2
□□;;
□□3)
□□□echo 3b
□□□hard3008t_3=`sas3ircu 1 display |grep -i "model number" |awk '{print $4 ,$5}'|grep -ve
"$hard3008t_0" -e "$hard3008t_1" -e $hard3008t_3|head -n1|tail -n1`
□□□hard3008tqty3=`sas3ircu 1 display |grep -ic "$hard3008t_3"`
□□
□□□hard3008tall=`echo "/ $hard3008t_0 *$hard3008tqty0 / $hard3008t_1 *$hard3008tqty1 /
```

```
$hard3008t_2 *$hard3008tqty2 / $hard3008t_3 *$hard3008tqty3"`
□□□
□□□let hard3008t=$hard3008t-$hard3008tqty3
□□;;

□□esac
□□□let i=$i+1
□□done

□fi



fi
}

hard(){
c3108=`lspci |grep -i raid |wc -l`
if [ "$c3108" -gt "0" ];then
lsi3108=`echo "/ LSI3108 *1"`
i=0
□hardall=`storcli64  /c0 show  |grep -i 512B`
□hardallc=`storcli64  /c0 show  |grep -ic 512B`
□until [ "$hardallc" = "0" ];
□do
□□case $i in
□□0)
□□hard0=`storcli64  /c0 show  |grep -i 512B |awk '{print $5$6,$7,$12, $13}'|head -n1|tail -n1`
□□
□□hardqty0=`storcli64  /c0 show  |grep -i 512B |awk '{print $5$6,$7,$12, $13}'|grep -ic
"$hard0"`

□□hard3108all=`echo "/ $hard0 *$hardqty0"`
□□let hardallc=$hardallc-$hardqty0
□□;;
□□1)
□□hard1=`storcli64  /c0 show  |grep -i 512B |awk '{print $5$6,$7,$12, $13}'|grep -v
"$hard0"|head -n1 |tail -n1`

□□hardqty1=`storcli64  /c0 show  |grep -i 512B |awk '{print $5$6,$7,$12, $13}'|grep -ic
"$hard1"`
□□
```

```
□□hard3108all=`echo "/ $hard0 *$hardqty0 / $hard1 *$hardqty1"`
□□let hardallc=$hardallc-$hardqty1

□□;;
□□2)
□□hard2=`storcli64  /c0 show  |grep -i 512B |awk '{print $5$6,$7,$12, $13}'|grep -ve "$hard0" -
"$hard1"|head -n1 |tail -n1`

□□hardqty2=`storcli64  /c0 show  |grep -i 512B |awk '{print $5$6,$7,$12, $13}'|grep -ic
"$hard2"`
□□
□□hard3108all=`echo "$hard0 *$hardqty0 / $hard1 *$hardqty1 / $hard2 *$hardqty2"`
□□let hardallc=$hardallc-$hardqty2

□□;;
□□3)
□□hard3=`storcli64  /c0 show  |grep -i 512B |awk '{print $5$6,$7,$12, $13}'|grep -ve "$hard0" -
"$hard1" -e "$hard2" |head -n1 |tail -n1`

□□hardqty3=`storcli64  /c0 show  |grep -i 512B |awk '{print $5$6,$7,$12, $13}'|grep -ic
"$hard3"`
□□
□□hard3108all=`echo "$hard0 *$hardqty0 / $hard1 *$hardqty1 / $hard2 *$hardqty2" / $hard3
*$hardqty3`
□□let hardallc=$hardallc-$hardqty3

□□;;
□□esac
□let i=$i+1□

□done

plus3108all=`cat /proc/scsi/scsi|grep -ve LSI -e AVAGO -e D51B |grep -ic Model`
if [ "$plus3108all" != "0" ];then
plus3108all=`cat /proc/scsi/scsi|grep -ve LSI -e AVAGO -e D51B |grep -ic Model`
i=0
□until [ "$plus3108all" = "0" ];
□do
□□case $i in
□□0)
□□plus3108on=`cat /proc/scsi/scsi|grep -ve LSI -e AVAGO -e D51B |grep -i Model |awk '{print $4,
```

```
$5}' |head -n1|tail -n1`
□□plus3108qty=`cat /proc/scsi/scsi|grep -ve LSI -e AVAGO -e D51B |grep -i Model |awk '{print $4
$5}'| grep -ic "$plus3108on"`
□□plus3108a=`echo "/ $plus3108on *$plus3108qty"`
□□let plus3108all=$plus3108all-$plus3108qty
□□;;
□□1)
□□plus3108on1=`cat /proc/scsi/scsi |grep -ve LSI -e AVAGO -e D51B |grep -i Model |awk '{print
$4, $5}' |grep -v "$plus3108on" |head -n1|tail -n1`
□□plus3108qty1=`cat /proc/scsi/scsi |grep -ve LSI -e AVAGO -e D51B|grep -i Model |awk '{print
$4, $5}'| grep -ic "$plus3108on1"`

□□plus3108a=`echo "/ $plus3108on *$plus3108qty / $plus3108on1 *$plus3108qty1"`
□□let plus3108all=$plus3108all-$plus3108qty1
□□echo "$plus3108on1 $plus3108qty1"
□□;;
□esac
□□let i=$i+1
□done
fi



fi
}

onhardchek(){
nohard=`lspci |grep -ie 3108 -e 3008 |wc -l`
if [ "$nohard" = "0" ];then
□onhard=`cat /proc/scsi/scsi |grep -i Model |awk '{print $4, $5}' |wc -l`
i=0
□until [ "$onhard" = "0" ];
□do
□□case $i in
□□0)
□□onhard0=`cat /proc/scsi/scsi |grep -i Model |awk '{print $4, $5}' |head -n1|tail -n1`
□□onhardqty0=`cat /proc/scsi/scsi |grep -i Model |awk '{print $4, $5}'| grep -ic "$onhard0"`
□□onhardall=`echo "/ $onhard0 *$onhardqty0"`
□□let onhard=$onhard-$onhardqty0
□□;;
□□1)
□□onhard1=`cat /proc/scsi/scsi |grep -i Model |awk '{print $4, $5}' |grep -v "$onhard0" |head -
```

```
n1|tail -n1`
□□onhardqty1=`cat /proc/scsi/scsi |grep -i Model |awk '{print $4, $5}'| grep -ic "$onhard1"`

□□onhardall=`echo "/ $onhard0 *$onhardqty0 / $onhard1 *$onhardqty1"`
□□let onhard=$onhard-$onhardqty1
□□;;

□□esac
□□let i=$i+1
□done

fi

}

nvME(){
nvMe=`lsblk |grep -ic nvme`
if [ "$nvMe" != "0" ]; then
echo in
□nvMe0=`nvme list |grep -i nvme |awk '{print $6, $7}'|head -n1`
□nvName0=`nvme list |grep -i nvme |awk '{print $4}'`
□nvMeqty0=`nvme list |grep -i nvme |grep -c "$nvName0"`
□nvMeall=`echo "/ $nvMe0 Nvme *$nvMeqty0"`
□

fi
}

gpu_ck(){
gpucheck=`lspci |grep -ic nvidia`
if [ "$gpucheck" != "0" ]; then
gpuname=`nvidia-smi -a |grep -i "Product Name"|head -n1|awk '{print $4,$5}'`
gpunum=`nvidia-smi -a |grep -ic "Product Name"`
gpuall=`echo "/ $gpuname *$gpunum"`
fi
}



seri=`ipmitool fru |grep -i "product serial"|head -n1 |awk '{print $4}'`

delivery
```

```
cpu;
meminfo;
onbor;
server;
i350;
connectx;
x540;
hba;
card3008; #check
hard;  #check
onhardchek;
nvME;
gpu_ck;
cd /mac_sn/spec_list
echo "$pname ||  `date +%Y-%m-%d` || $deli ||  $seri  ||  $cpuname *$cpuqty / $memory
$mem_type $lsi3108 $sas3008ir $sas3008it $onhardall $hard3008all $nvMeall $hard3008tall
$hard3108all $plus3108a $oncard $i350t $x540t $x550t2 $connX $hba16g $hba8g $gpuall" >> `date
+%y-%m.txt`

cat -n `date +%y-%m.txt`

#mkdir `date +%Y-%m`
```