

Patching Solaris 10 SVM – 2017-Q04

Confirm that the mirroring is OK and no HW errors are present. Save the output of commands like *df -h; echo | format; metastat ; metastat -c; metastat -p; prtconf -vp | grep -i bootpath; iostat -en; fmadm faulty;*

NOTES: Perform a safety reboot if uptime is too long. Decompress the zip file before the installation (will save you time). Package needs 3 GB space while copying from Stealth and 7 Gb free space while extracting the zip file to local directory. CHANGE ROOT's PASSWORD. Make sure console is working properly.

Start by decompressing the zip file from stealth repository, run command below from a Filesystem that has at least 7 GB free, **DO NOT USE /tmp**. Run in background in case you lose your connection.

NFS://net/stealth.nam.nsroot.net/export1/home1.localhost/sw/PKG/S10-Patches-2018-Q1.tgz
Package size: 2484220688 (bytes)

```
lacbra940sun203:/oracle/mayller> nohup gzc  
/net/stealth.nam.nsroot.net/export1/home1.localhost/sw/PKG/S10-Patches-2018-Q1.tgz  
| tar -xf - &  
  
lacbra940sun203:/oracle/mayller> ps -ef | grep -i patches | grep -v grep  
root 9154 16287 1 09:22:50 pts/2 0:22 gzip -cd  
/net/stealth.nam.nsroot.net/export1/home1.localhost/sw/PKG/S10-Patches-2018-Q1.tgz  
lacbra940sun203:/oracle/mayller>
```

Identify the disks and detach OS filesystems:

```
lacbra940sun203:/> df -h  
Filesystem      size  used  avail capacity Mounted on  
/dev/md/dsk/d1  4.7G  3.4G  1.3G   72%  /  
/devices        OK   OK   OK    0%   /devices  
ctfs            OK   OK   OK    0%   /system/contract  
proc           OK   OK   OK    0%   /proc  
mnttab         OK   OK   OK    0%   /etc/mnttab  
swap          47G  1.6M  47G    1%   /etc/svc/volatile  
objfs          OK   OK   OK    0%   /system/object  
sharefs        OK   OK   OK    0%   /etc/dfs/sharetab  
/dev/md/dsk/d3  9.4G  7.6G  1.7G   82%  /usr  
/platform/SUNW,Sun-Fire-T200/lib/libc_psr/libc_psr_hwcapi1.so.1  
4.7G  3.4G  1.3G   72%  /platform/sun4v/lib/libc_psr.so.1  
/platform/SUNW,Sun-Fire-T200/lib/sparcv9/libc_psr/libc_psr_hwcapi1.so.1  
4.7G  3.4G  1.3G   72%  /platform/sun4v/lib/sparcv9/libc_psr.so.1  
fd             OK   OK   OK    0%   /dev/fd  
/dev/md/dsk/d4  4.7G  3.5G  1.2G   75%  /var  
swap          47G  2.3M  47G    1%   /tmp  
swap          47G  80K   47G    1%   /var/run
```

/dev/md/dsk/d5	19G	17G	2.1G	89%	/opt
/dev/md/dsk/d211	39G	37G	1.7G	96%	/apps
/dev/md/dsk/d210	4.9G	3.1G	1.8G	64%	/gcb
/dev/md/dsk/d212	30G	20G	8.9G	70%	/oracle

```

lacbra940sun203:/> metastat -c
d211      p  40GB d200
d210      p  5.0GB d200
d212      p  30GB d200
  d200     m 136GB d201 d202
    d201    s 136GB c0t2d0s0
    d202    s 136GB c0t3d0s0
d5        m  19GB d50 d51      */opt
  d50      s  19GB c0t0d0s5
  d51      s  19GB c0t1d0s5
d4        m   4.8GB d40 d41     */var
  d40      s   4.8GB c0t0d0s4
  d41      s   4.8GB c0t1d0s4
d3        m   9.6GB d30 d31     */usr
  d30      s   9.6GB c0t0d0s3
  d31      s   9.6GB c0t1d0s3
d2        m   29GB d20 d21     *Swap/tmp
  d20      s   29GB c0t0d0s1
  d21      s   29GB c0t1d0s1
d1        m   4.8GB d10 d11     */
  d10      s   4.8GB c0t0d0s0
  d11      s   4.8GB c0t1d0s0
lacbra940sun203:/>

```

```

echo|format:
AVAILABLE DISK SELECTIONS:
  0. c0t0d0 <SUN72G cyl 14087 alt 2 hd 24 sec 424>      *First disk
    /pci@780/pci@0/pci@9/scsi@0/sd@0,0
  1. c0t1d0 <SUN72G cyl 14087 alt 2 hd 24 sec 424>      *Mirror
    /pci@780/pci@0/pci@9/scsi@0/sd@1,0
  2. c0t2d0 <SUN146G cyl 14087 alt 2 hd 24 sec 848>
    /pci@780/pci@0/pci@9/scsi@0/sd@2,0
  3. c0t3d0 <SUN146G cyl 14087 alt 2 hd 24 sec 848>
    /pci@780/pci@0/pci@9/scsi@0/sd@3,0

```

Detach the secondary disk:

```

metadetach d5 d51
metadetach d4 d41
metadetach d3 d31
metadetach d2 d21
metadetach d1 d11

```

Booted on:

```
lacbra940sun203:/> prtconf -vp | grep -i bootpath
bootpath: '/pci@780/pci@0/pci@9/scsi@0/disk@0,0:a'
lacbra940sun203:/>
```

Mount root filesystem of **secondary** disk on /mnt:

```
lacbra940sun203:/> mount /dev/dsk/c0t1d0s0 /mnt
You have new mail in /var/mail/root
lacbra940sun203:/>
```

Make a copy of /mnt/etc/vfstab and edit so filesystems will be mounted on disk slice format of the **secondary** disk:

```
#/dev/md/dsk/d2 - - swap - no -
/dev/dsk/c0t1d0s1 - - swap - no -
#/dev/md/dsk/d1 /dev/md/rdisk/d1 / ufs 1 no -
/dev/dsk/c0t1d0s0 /dev/rdisk/c0t1d0s0 / ufs 1 no -
#/dev/md/dsk/d3 /dev/md/rdisk/d3 /usr ufs 1 no -
/dev/dsk/c0t1d0s3 /dev/rdisk/c0t1d0s3 /usr ufs 1 no -
#/dev/md/dsk/d4 /dev/md/rdisk/d4 /var ufs 1 no -
/dev/dsk/c0t1d0s4 /dev/rdisk/c0t1d0s4 /var ufs 1 no -
#/dev/md/dsk/d5 /dev/md/rdisk/d5 /opt ufs 2 yes -
/dev/dsk/c0t1d0s5 /dev/rdisk/c0t1d0s5 /opt ufs 2 yes -
#####/dev/md/dsk/d6 /dev/md/rdisk/d6 /apps ufs 2 yes -
#####/dev/md/dsk/d3 /dev/md/rdisk/d3 /gcb ufs 2 yes -
```

Make a copy of /mnt/etc/system and comment out the lines below with * and not #

```
*rootdev:/pseudo/md@XXXXXX
* mirror flag: set md:mirrored_root_flag=1
```

Installboot block on both disks slice zero:

```
lacbra940sun203:/> /usr/sbin/installboot /usr/platform/`uname -m`/lib/fs/ufs/bootblk
/dev/rdisk/c0t0d0s0
lacbra940sun203:/> /usr/sbin/installboot /usr/platform/`uname -m`/lib/fs/ufs/bootblk
/dev/rdisk/c0t1d0s0
```

Boot server on secondary disk:

```
passwd root
init 0
[OK] boot /pci@780/pci@0/pci@9/scsi@0/disk@1,0
```

(NOT sd@1,0 - should be disk)

Check:

```
df -h
prtconf -vp | grep -i bootpath (should be the second disk)
uptime
date
```

At this point we confirmed that our Backout plan is working properly. Now let's reboot the server on original disk and apply the patches.

```
init 0
[OK] boot (so server boots up normally)
```

After boot check:

```
uptime
date
df -h (should be normal dm format)
prtconf -vp | grep -i bootpath (should be the primary disk)
```

Reboot the server in Single User mode:

```
passwd root
init 0
[OK] boot -s
```

Mount the FS where the patches are located and install the patchset. Run **./installpatchset --apply-prereq** prior to installing the full 2017-Q3 patchset.

```
lacbra940sun203:/> who -r
.    run-level S  Oct  5 10:46   S    0  0
lacbra940sun203:/>
mount /dev/md/dsk/d212 /oracle
cd /oracle/mayller/S10-Patches-2017-Q4/
./installpatchset
```

Patching:

The Server is SERVER UAT environment.
Server hardware is supported. Patch installation proceeding.

Setup .

CPU OS Patchset 2017/04 Solaris 10 SPARC (2017.04.13)

The patch set will complete installation in this session. No intermediate reboots are required.

Application of patches started : 2017.10.05 11:37:58

Applying 120900-04 (1 of 408) ... skipped

Applying 121133-02 (2 of 408) ... skipped

Applying 119254-93 (3 of 408) ... success

...

...

...

Following patches were applied :

119254-93	148336-02	118777-18	121118-21	118833-36
138215-02	146054-07			

Following patches were skipped :

Patches already applied

120900-04	142251-02	118707-05	118918-24	140860-02
121133-02	125555-16	118708-19	138217-01	121453-02
119317-01	118367-04	118718-06	119578-30	121453-02
121296-01				

Patches not applicable to packages on the system

118705-02	118706-01	118711-03	118712-23	121181-05
-----------	-----------	-----------	-----------	-----------

End of patch set installation phase. PLEASE REBOOT THE SYSTEM.

The installation of this patch set has halted after applying patch 118833-36. The machine must now be rebooted before further patches can be applied. Please reboot the machine and rerun this script. For further details, see patch set 10_Recommended_CPU_2017-04.README file.

Reboot the server and run installpatchset once again. Takes a long time so be patient and **don't let your session expire.**

```
init 0
[OK] boot -s
mount /dev/md/dsk/d212 /oracle
cd /oracle/mayller/S10-Patches-2018-Q1/
./installpatchset
```

After hours:

Following patches were applied :

119059-72	120739-08	137097-02	147805-01	149173-07
119115-35	120753-09	137102-01	148006-01	149175-10
119117-52	120812-32	137147-08	148031-05	149279-04
119213-33	121095-05	137321-04	148049-04	121081-08
119313-42	121104-11	138247-01	148104-23	149453-02
119315-19	121308-20	139615-01	148112-02	149483-01
119538-19	122212-46	141104-04	148165-02	149496-02
120099-08	122259-09	143317-03	148241-05	149646-02
119546-08	122470-03	143502-01	148309-06	150032-01
119548-14	122911-37	143506-12	148383-01	150113-02
120011-14	123590-12	143643-08	148403-01	150119-04
150551-03	123893-79	143731-01	148412-02	150123-01
148071-19	123938-05	143739-01	148423-01	150157-01
151912-09	124939-05	144325-01	148559-18	150173-01
119757-38	125215-07	144872-03	148561-11	150180-02
119764-07	125332-24	144909-03	148565-01	150307-01
119783-40	125505-01	144994-02	148625-01	150310-02
119810-08	125719-57	145006-09	148768-02	150383-18
119812-20	125725-03	146288-03	148870-01	150534-01
119900-18	125731-13	146681-02	149071-01	150535-01
119906-18	126119-02	146694-02	149075-01	150537-01
120094-36	126546-10	146834-02	149108-01	150545-02
120201-07	126630-06	147219-01	149149-01	150631-04
120284-07	126868-05	147272-01	149163-01	150832-12
120460-17	127872-02	147793-20	149165-01	150836-01
120286-03	136882-06	147797-04	150400-49	150912-01
120543-36	137080-07			

Following patches were skipped :

Patches already applied

120900-04	122640-05	121975-01	137871-02	144106-01
121133-02	126897-02	120719-07	138096-02	144188-02
119254-93	127755-01	120732-01	138181-01	144327-02
119317-01	125503-02	120830-06	138245-01	144455-01
121296-01	118731-01	121136-02	138361-01	144492-01
138215-02	124204-04	121337-01	138647-01	144569-01
148336-02	122660-10	120235-01	138649-01	147002-01
146054-07	125547-02	121428-15	138766-01	144911-02
142251-02	140796-01	121606-04	138852-01	145120-01
125555-16	139520-02	123003-04	138854-01	145648-03
118367-04	125891-01	124171-07	139099-04	147143-17
118707-05	126540-02	123630-03	139620-01	146334-01
118708-19	127127-11	123252-01	139962-02	146582-05
118718-06	138866-03	123358-02	139980-01	146673-01
118777-18	137137-09	123526-01	139986-01	146954-03
118918-24	141016-01	124149-16	140912-01	147023-01
138217-01	139555-08	124325-01	141032-01	147194-03

119578-30	142292-01	124393-11	141496-01	147227-01
140860-02	141444-09	124397-02	141548-01	147378-01
121453-02	142911-01	124997-01	141558-01	148027-03
121453-02	142933-05	125075-01	141586-01	148407-01
121118-21	142909-17	125279-05	142049-01	148627-02
118833-36	144526-02	126206-11	142234-01	148693-01
118945-01	144500-19	126425-01	142240-01	148881-03
118981-03	147442-01	126440-01	142340-02	150435-04
119063-01	147147-26	127752-01	142394-01	148888-05
119081-25	150510-03	128292-01	142397-01	148948-01
119130-33	119903-02	128298-02	142428-02	148975-01
119246-39	119955-05	128310-01	142430-01	149067-01
123611-05	119963-24	128332-01	142529-01	149638-05
119280-25	119966-01	136893-02	142543-01	150025-01
119282-01	119986-03	137032-01	143609-03	150031-15
140899-01	120101-01	137093-01	143733-01	150107-03
124188-03	120292-02	137115-01	143954-04	150312-06
119648-03	120348-03	137282-01	144047-01	150539-01
120272-31				

Patches obsoleted by one or more patches already applied

124628-10	120199-15	120410-33	124457-02	141532-04
119252-29	119534-29	123005-07	124630-42	145096-03
119278-38	119368-04			

Patches not applicable to packages on the system

118705-02	120849-04	137000-08	143527-01	147673-10
118706-01	120928-32	137004-09	143651-01	147992-10
118711-03	121211-02	137090-02	144664-01	148002-01
118712-23	121946-01	138195-04	143725-10	148004-01
121181-05	122031-01	138822-12	144229-02	148135-01
119309-03	122472-07	138824-12	144996-02	148322-13
120195-02	123301-01	138826-12	145023-01	148342-09
120256-01	125533-17	139289-02	147217-02	149112-01
120412-11	125670-04	139291-02	145080-15	149167-06
120414-27	126363-10	140455-01	145200-13	150616-01
120811-09	126365-16	142244-02	145929-05	150618-02
120815-01	136998-10	142373-04	146679-01	

Following patch failed to apply :

151074-02

Aborting due to failure while applying patch 151074-02.

Application of this patch should have succeeded - this failure is unexpected.
Please assess cause of failure and verify system integrity before proceeding.

Install log files written :

/var/sadm/install_data/s10s_rec_patchset_short_2017.10.05_11.51.57.log
/var/sadm/install_data/s10s_rec_patchset_verbose_2017.10.05_11.51.57.log

```
/var/sadm/install_data/s10s_rec_patchset_failed_2017.10.05_11.51.57.log
/var/sadm/install_data/_patchadd_2017.10.05_11.51.57.log
/var/sadm/install_data/_patchadd_subproc_2017.10.05_11.51.57.log
file copied
lacbra940sun203:/oracle/mayller/S10-Patches-2018-Q1>
```

Current Sun patching facilities do not provide for verification of patch installation or validation of patched files. To partially address this issue, PSE is providing manifests of MD5 signatures for patch target files along with a simple comparison tool. This tool should not be used as a guarantee of success, but rather used as an aid to help identify failures in patching. To compare MD5 signatures and identify possible patch failures:

This may be done in any run-state (single-user or multi-user)

Validation:

```
cd <Where_you_staged_packages>/S10-Patches-2018-Q1/soe/bart
<llr/S10-Patches-2018-Q1/soe/bart> ./checkSignatures.sh
Collecting patchinfo. . .
Collecting pkginfo. . .
Collecting list of patch manifests. . .
./checkSignatures.sh: control: does not exist
Creating control manifest. . .
Creating test manifest. . .
awk: can't open /tmp/tmp1.5222
Comparing manifests. . .
./checkSignatures.sh: /tmp/tmp1.5222: cannot open
Done.
```

All target patched files *appear* to have been patched properly.

```
rm -f /tmp/patchDB.5222 /tmp/pkgDB.5222 /tmp/tmp1.5222 /tmp/tmp2.5222 /tmp/manifestC.5222
/tmp/manifestT.5222 /tmp/manifestDB.5222
lacbra940sun203:/oracle/mayller/S10-Patches-2018-Q1/soe/bart>
```

The tool will generate both control (expected/correct) and test (actual/existing) manifests, compare them, and display discrepancies. Files listed should be manually verified to be correct.

Specific issues to note:

- 1. The listing of files not matching expected signatures does not necessarily indicate failure, and typical runs will generally identify at least one mismatch.*
- 2. If newer revisions of patches that comprise this patchset are installed, some files in that patch will not match the expected MD5 signatures and will be identified by this tool. These may be ignored.*
- 3. Kernel driver configuration files and system configuration files (in /etc) are explicitly ignored.*
- 4. The time taken for the tool may vary based on CPU and I/O performance.*

Reboot server and check system health:

```
init 6
/opt/rinfo/bin/rinfosend (update configdb)
```


Reattach the disks after a day or two to make sure the application is running fine and rollback is not required.