Remove Dell Compellent LUN from Solaris 10

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Remove Dell Compellent LUN from Solaris 10 - Technical Tip

**Document revision**

<table>
<thead>
<tr>
<th>Date</th>
<th>Revision</th>
<th>Comments</th>
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<tbody>
<tr>
<td>6/23/2011</td>
<td>A</td>
<td>Initial Draft</td>
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<tr>
<td>10/14/2011</td>
<td>B</td>
<td>Updated to new template</td>
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<tr>
<td></td>
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<td>Added cfgadm -o force_update step for clarity</td>
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General syntax

Table 1. Document syntax

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<td>Menu items, dialog box titles, field names, keys</td>
<td>Bold</td>
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<tr>
<td>Mouse click required</td>
<td>Click:</td>
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</tr>
<tr>
<td>Email addresses</td>
<td><a href="mailto:info@compellent.com">info@compellent.com</a></td>
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</table>

Conventions

- **Note**
  Notes are used to convey special information or instructions.

- **Timesaver**
  Timesavers are tips specifically designed to save time or reduce the number of steps.

- **Caution**
  Caution indicates the potential for risk including system or data damage.

- **Warning**
  Warning indicates that failure to follow directions could result in bodily harm.
Preface

Audience
The audience for this document is System Administrators who are responsible for the management of Solaris 10 systems that utilize the Dell Compellent SAN.

Purpose
This document provides an overview of removing a LUN from a Solaris 10 host when using the Dell Compellent Storage Center. For Solaris Best Practices and additional Technical Tips, download these from http://knowledgecenter.compellent.com.

Customer support
Dell Compellent provides live support 1-866-EZSTORE (866.397.8673), 24 hours a day, 7 days a week, 365 days a year. For additional support, email Dell Compellent at support@compellent.com. Dell Compellent responds to emails during normal business hours.
**Introduction**

This technical tip discusses the steps to properly remove a Dell Compellent mapped LUN from a host system running the Oracle Solaris 10 operating system. As with all Unix operating systems there is more than one way to accomplish the same task. The steps presented below are one way to remove a LUN presented to a Solaris 10 host from a Dell Compellent Storage Center SAN, however, other variations to this process may also accomplish this end goal as well.

It is sometimes necessary to remove a Dell Compellent volume from a Solaris 10 server. There can be a number of reasons for this need, but it is a Best Practice to make sure to completely un-configure the device so that the system remains as clean as possible. This step-by-step guide will walk through the process to identify the LUN to be removed, and the steps necessary to fully remove the reference to the LUN from the Solaris server perspective.

**Test Bed Environment**

In the examples detailed below, the environment utilized was composed of the hardware and software versions listed below.

**Dell Compellent SAN**
- Model: SC030
- Storage Center OS: 5.4.5
- Description: Dual-controller, with Legacy Port Mode. Each controller contained a quad-port QLogic QLE2464 HBA.
- Enclosure: 1 x FC SBOD
- HDD: 16 x Seagate ST3400755FC

**Fiber Channel Switches**
- Model: 2 x Cisco 9134
- Firmware: 4.1(3a)
- Connectivity between switches provided via Cisco DS9513 director.

**Server**
- Make/Model: Oracle SunFire T2000
- Operating System: Solaris 10 10/09
- Multipath Software: Solaris SAN Foundation Suite w/ MPxIO
- HBA
  - Make/Model: Emulex LPe12002-M8
  - Firmware: 1.10a5
  - FCode/BIOS Version: Boot:5.03a2 Fcode:3.01a1
  - OS Driver: emlx
  - Driver Version: 2.50o (2010.01.08.09.45)
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Remove a Dell Compellent LUN from the Solaris 10 Host

A production system running Solaris 10 has had a LUN mapped to it, but a new server has been installed and we want to move the LUN to that server. First we must remove the LUN from the old server so that it can be mapped to the new server. We have determined the LUN we want to remove is c6t6000d31000006700000000000000611d0.

We can verify this is the LUN using the format command:

```
[root@ceaser] {/} # format
Searching for disks...done

AVAILABLE DISK SELECTIONS:
 0. c6t6000d3100000670000000000000060Dd0 <COMPELNT-CompellentVol-0504 cyle 49930 alt 2
    hd 8 sec 126> SOL100S
    /scsi_vhci/ssd@g6000d3100000670000000000000060d
 1. c6t6000d31000006700000000000000611d0 <COMPELNT-CompellentVol-0504 cyle 49930 alt 2
    hd 8 sec 63> DATA2
    /scsi_vhci/ssd@g6000d31000006700000000000000611d0

Specify disk (enter its number): ^C
```

We can then use the df command to check the currently mounted devices.

```
[root@ceaser] {/} # df
Filesystem           size  used  avail %used Mounted on
/dev/dsk/c6t6000d3100000670000000000000060Dd0s0 20G 4.3G 15G 22% /
/devices             0K  0K  0K  0%  /devices
/ctfs                0K  0K  0K  0%  /system/contract
/proc                0K  0K  0K  0%  /proc
/mnttab              0K  0K  0K  0%  /etc/mnttab
/swap                9.6G 1.6M 9.6G 1%  /etc/svc/volatile
/objfs               0K  0K  0K  0%  /system/object
/sharesfs            0K  0K  0K  0%  /etc/dfs/sharetab
/platform/SUNW,Sun-Fire-T200/lib/libc_psr/libc_psr_hwcap1.so.1 20G 4.3G 15G 22% /platform/sun4v/lib/libc_psr.so.1
/platform/SUNW,Sun-Fire-T200/lib/sparcv9/libc_psr/libc_psr_hwcap1.so.1 20G 4.3G 15G 22% /platform/sun4v/lib/sparcv9/libc_psr.so.1
/dev/fd              0K  0K  0K  0%  /dev/fd
swap                 9.6G 40K 9.6G 1%  /tmp
swap                 9.6G 56K 9.6G 1%  /var/run
/vol/dsk/c0t0d0/sol_10_910_sparc  2.1G 2.1G  0K 100%  /cdrom/sol_10_910_sparc
/dev/dsk/c6t6000d31000006700000000000000611d0s6 12G 12M 12G 1%  /data2
```

We can see that the LUN is currently mounted as /data2. Below is the step-by-step process to remove this LUN from the host.

1. Unmount the volume from the server if mounted.
   ```
   [root@ceaser] {/} # umount /data2
   ```

2. Remove the entry from the /etc/vfstab, if needed.
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3. Run the `luxadm` command to offline the LUN for removal from the system.
   
   ```bash
   [root@ceaser] {} # luxadm -e offline /dev/rdsk/c6t6000D31000006700000000000000061d0s2
   ```

4. Run the `format` command to verify the LUN is no longer available.
   
   ```bash
   [root@ceaser] {} # format
   Searching for disks...done
   
   AVAILABLE DISK SELECTIONS:
   0. c6t6000D31000006700000000000000060Dd0 <COMPULNT-CompellentVol-0504 cyl 49930 alt 2 hd 8 sec 126> SOL100S
   /scsi_vhci/ssd@g6000d31000006700000000000000060d
   Specify disk (enter its number): ^C
   ```

5. Login to the Storage Center Management GUI and remove the mapping.

6. Run the `cfgadm` command to rescan the fibre channel ports. This command will need to be run for each connected port. In the system used, the volume was mapped using the HBA ports c1 and c5.

   ```bash
   [root@ceaser] {} # cfgadm -o force_update -c configure c1
   [root@ceaser] {} # cfgadm -o force_update -c configure c5
   ```

7. Use the `devfsadm` command to clean up the device entries.

   ```bash
   [root@ceaser] {} # devfsadm -Cv
   devfsadm[981]: verbose: removing file: /dev/rdsk/c6t6000D31000006700000000000000061d0s0
   devfsadm[981]: verbose: removing file: /dev/rdsk/c6t6000D31000006700000000000000061d0s1
   devfsadm[981]: verbose: removing file: /dev/rdsk/c6t6000D31000006700000000000000061d0s2
   devfsadm[981]: verbose: removing file: /dev/rdsk/c6t6000D31000006700000000000000061d0s3
   devfsadm[981]: verbose: removing file: /dev/rdsk/c6t6000D31000006700000000000000061d0s4
   devfsadm[981]: verbose: removing file: /dev/rdsk/c6t6000D31000006700000000000000061d0s5
   devfsadm[981]: verbose: removing file: /dev/rdsk/c6t6000D31000006700000000000000061d0s6
   devfsadm[981]: verbose: removing file: /dev/rdsk/c6t6000D31000006700000000000000061d0s7
   devfsadm[981]: verbose: removing file: /dev/rdsk/c6t6000D31000006700000000000000061d0s0
   devfsadm[981]: verbose: removing file: /dev/rdsk/c6t6000D31000006700000000000000061d0s1
   devfsadm[981]: verbose: removing file: /dev/rdsk/c6t6000D31000006700000000000000061d0s2
   devfsadm[981]: verbose: removing file: /dev/rdsk/c6t6000D31000006700000000000000061d0s3
   ```
Summary
After the completion of the above steps, the Solaris 10 system will have a clean configuration and not posses any reference to the removed LUN. This process can be incorporated with other Dell Compellent Solaris 10 Best Practices and Tech Tips to maintain Solaris 10 systems using the Dell Compellent SAN.