

Sunday, April 27. 2008

## **Less known Solaris Features: Point-in-time copy with AVS - Part 10: Administration**

Okay, there are several administrative procedures with the point-in-time copy functionality. I will describe only the most important ones, as i don't want to substitute the manual with this tutorial.

Deleting a point-in-time copy configuration Okay, let's assume you used the following configuration so far:

```
# iiadm -l
```

```
dep /dev/rdisk/c1d0s3 /dev/rdisk/c1d1s6 /dev/rdisk/c1d1s4It's really easy to delete this config. As i mentioned before, the name of the shadow volume clearly indicates a point-in-time copy configuration, as there can be only one configuration for any given shadow volume. So you use the name of the shadow volume to designate a configuration. Thus the command to delete the configuration is fairly simple:# iiadm -d /dev/rdisk/c1d1s6The -d tells iiadm to delete the config. When we recheck the current AVS configuration, the config for /dev/rdisk/c1d1s6 is gone:# iiadm -l
```

```
#
```

Forcing a full copy resync of a point-in-time copy Whenever you are in doubt of the consistency of you point-in-time copy (flacky disks, you've swapped a disk) it may be sensible to force a full copy resync instead of coping only the changed parts. Let's assume the following config of an independent copy:# iiadm -l

```
ind /dev/rdisk/c1d0s3 /dev/rdisk/c1d1s3 /dev/rdisk/c1d1s4Again you use the name of the shadow volume to designate the configuration. You force the full copy resync with a single command:# iiadm -c s /dev/rdisk/c1d1s3When we check the status of the dependent copy, you will see that a full copy is in progress:
```

```
# iiadm -i
```

```
/dev/rdisk/c1d0s3: (master volume)
```

```
/dev/rdisk/c1d1s3: (shadow volume)
```

```
/dev/rdisk/c1d1s4: (bitmap volume)
```

```
Independent copy, copy in progress, copying master to shadow
```

```
Latest modified time: Sun Apr 27 01:49:21 2008
```

```
Volume size: 273105
```

```
Shadow chunks total: 4267 Shadow chunks used: 0
```

```
Percent of bitmap set: 69
```

```
(bitmap dirty)Let's wait for a few moments and check the status again:# iiadm -i
```

```
/dev/rdisk/c1d0s3: (master volume)
```

```
/dev/rdisk/c1d1s3: (shadow volume)
```

```
/dev/rdisk/c1d1s4: (bitmap volume)
```

```
Independent copy
```

```
Latest modified time: Sun Apr 27 01:49:21 2008
```

```
Volume size: 273105
```

```
Shadow chunks total: 4267 Shadow chunks used: 0
```

```
Percent of bitmap set: 0
```

```
(bitmap clean)The full copy resync has completed.
```

Grouping point-in-time copies Sometimes the data of an application is distributed over several disks. For example because you application is rather old can use only volumes sized at 2 Gigabytes each. When you want to make a consistent point-in-time copy of all volumes, you have to do it at the same time. To enable the admin to do so, you can group point-in-time copies. When you use the groupname, all members of the group get the commands at the same time.

Okay, let's assume we have an independent copy so far. # iiadm -l

```
ind /dev/rdisk/c1d0s3 /dev/rdisk/c1d1s3 /dev/rdisk/c1d1s4Now we want to configure another one for the volume
```

```
/dev/rdisk/c1d0s5 with /dev/rdisk/c1d1s5 as the shadow volume and /dev/rdisk/c1d1s6 as the bitmap volume.
```

At first we move the existing configuration into a group. I will name it database in my example but you could choose any other name for it.# iiadm -g database -m /dev/rdisk/c1d1s3With -g we designate the groupname and with -m we move the volume into the group. As usual we use the name of the shadowvolume to designate the configuration.

Now we create the point-in-time copy of the second volume. But we will create it directly in the group. To do so, we need the -g switch.# iiadm -g database -e dep /dev/rdisk/c1d0s5 /dev/rdisk/c1d1s5 /dev/rdisk/c1d1s6Please notice, that we used a different copy mechanism for the point-in-time copy. The don't have to be identical in the group.

Let's check the state of our copies:# iiadm -i  
/dev/rdisk/c1d0s3: (master volume)  
/dev/rdisk/c1d1s3: (shadow volume)  
/dev/rdisk/c1d1s4: (bitmap volume)  
Group name: database  
Independent copy  
Latest modified time: Sun Apr 27 01:49:21 2008  
Volume size: 273105  
Shadow chunks total: 4267 Shadow chunks used: 0  
Percent of bitmap set: 0  
(bitmap clean)

-----  
/dev/rdisk/c1d0s5: (master volume)  
/dev/rdisk/c1d1s5: (shadow volume)  
/dev/rdisk/c1d1s6: (bitmap volume)  
Group name: database  
Dependent copy  
Latest modified time: Sun Apr 27 02:05:09 2008  
Volume size: 273105  
Shadow chunks total: 4267 Shadow chunks used: 0  
Percent of bitmap set: 0

(bitmap clean)Now let's initiate a full copy resync on the group database: # iiadm -c s -g databaseWhen you check the state of your copies again, you will recognize that you initiated a full resync on both copies at the same time:# iiadm -i

/dev/rdisk/c1d0s3: (master volume)  
/dev/rdisk/c1d1s3: (shadow volume)  
/dev/rdisk/c1d1s4: (bitmap volume)  
Group name: database  
Independent copy, copy in progress, copying master to shadow  
Latest modified time: Sun Apr 27 02:08:09 2008  
Volume size: 273105  
Shadow chunks total: 4267 Shadow chunks used: 0  
Percent of bitmap set: 42  
(bitmap dirty)

-----  
/dev/rdisk/c1d0s5: (master volume)  
/dev/rdisk/c1d1s5: (shadow volume)  
/dev/rdisk/c1d1s6: (bitmap volume)  
Group name: database  
Dependent copy, copy in progress, copying master to shadow  
Latest modified time: Sun Apr 27 02:08:09 2008  
Volume size: 273105  
Shadow chunks total: 4267 Shadow chunks used: 0  
Percent of bitmap set: 40  
(bitmap dirty)

Posted by Joerg Moellenkamp in English, Solaris at 09:12