

Saturday, March 22, 2008

Less known Solaris Features: iSCSI - Part 2: Basic iSCSI

At first I will show you, how to do a really simple iSCSI configuration. This is without any authentication. Thus everybody can connect to the iSCSI targets on the system. But this is sufficient for a test. And it's this is better for having a quick success.

EnvironmentFor this example, i will use my both demo VMs again:

10.211.55.200 theoden

10.211.55.201 gandalfBoth systems runs with Solaris Express Build 84 for x86, but you can to the same with Solaris Update 4 for SPARC and x86 as well.

In our example, theoden is the server with the iSCSI target. gandalf is the server, which wants to use the the LUN via iSCSI on theoden, thus gandalf is the server with the initiator.

PrerequisitesAt first, we login to theoden and assume root privileges. Okay, to test iSCSI we need some storage volumes to play around. There is a nice way to create a playground with ZFS. You can use files as devices. But at first we have to create this files# mkdir /zfstest

```
# cd /zfstest
```

```
# mkfile 128m test1
```

```
# mkfile 128m test2
```

```
# mkfile 128m test3
```

```
# mkfile 128m test4Okay, now we stripe those four files in a zpool:# zpool create testpool /zfstest/test1 /zfstest/test2
```

```
/zfstest/test3 /zfstest/test4Now we make a short check for the zpool# zpool list
```

```
NAME      SIZE  USED  AVAIL  CAP  HEALTH  ALTROOT
```

```
testpool 492M  97K  492M   0%  ONLINE  -
```

Configuring the iSCSI TargetWe stay at server theoden. Okay, now we have to configure an iSCSI target. We create an emulated volume within the zfspool:# zfs create -V 200m testpool/zfsvolume

```
# zfs list
```

```
NAME          USED  AVAIL  REFER  MOUNTPOINT
```

```
testpool      200M  260M   18K  /testpool
```

```
testpool/zfsvolume 200M  460M   16K  -The emulated volume has the size of 200M.Okay, it's really easy to enable
```

the iSCSI target. At first we have to enable the iSCSI Target service:# svcadm enable iscsitgtNow we share the volume

```
via iSCSI# zfs set shareiscsi=on testpool/zfsvolumeThat's all on the target
```

Configuring the iSCSI initiator

Okay, now we have configure the initiator. We have to login on gandalf and assume root privileges as well. At first we have to activate the initiator via SMF:# svcadm enable iscsi_initiatorAfter this we configure the initiator and tell the

```
initiator to discover devices on our iSCSI target.# iscsiadm modify initiator-node -A gandalf
```

```
# iscsiadm add discovery-address 10.211.55.200
```

```
# iscsiadm modify discovery -t enable
```

Using the iSCSI device

Okay, now tell Solaris to scan for iSCSI devices.# devfsadm -c iscsiThe -c iscsi limits the scan to iSCSI devices. With the format command we look for the available disks in the system:

```
# format
```

```
Searching for disks...done
```

AVAILABLE DISK SELECTIONS:

```
0. c0d0
```

```
   /pci@0,0/pci-ide@1f,1/ide@0/cmdk@0,0
```

```
1. c1d0
```

```
   /pci@0,0/pci-ide@1f,1/ide@1/cmdk@0,0
```

```
2. c2t0100001C42E9F21A00002A0047E39E34d0
```

```
   /scsi_vhci/disk@g0100001c42e9f21a00002a0047e39e34
```

Specify disk (enter its number): ^COkay, there is new device with a really long name. We can use this device for a zfs pool:# zpool create zfsviaiscsi c2t0100001C42E9F21A00002A0047E39E34d0

```
# zpool list
```

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NAME	SIZE	USED	AVAIL	CAP	HEALTH	ALTROOT
zfsviaiscsi	187M	480K	187M	0%	ONLINE	-

#As you see, we have created a zfs filesystem via iSCSI on an emulated volume on a zpool on a remote system.

Posted by Joerg Moellenkamp in English, Solaris at 08:42

Nice article! One comment about the "Configuring the iSCSI initiator" section. I don't think that

"svcadm enable iscsi_initiator"

is required and I recall some reference about this actually being a hack for something else earlier in the life of the iSCSI initiator software. You might test/disable this service and see if your iSCSI connections still live (and I bet they will, even after a reboot).

Anonymous on Apr 8 2008, 07:45