背景：

原本Window系统的VM，重启后操作系统变为Centos？！

原因分析：

Nova迁移虚机失败，未回滚数据库记录，导致KVM启动时映射了错误的LUN_ID（映射到同一台宿主机的其他磁盘）。

发现的问题：

1.　Nova迁移失败后没有通知cinder删除dest_compute上的LUN映射，导致卷被映射到了多个iGroup上；

2.　Nova迁移失败后没有回滚block_device_mapping表的connection_info字段。重启VM虚机时，Nova用block_device_mapping中的connection_info覆盖了之前的LUN_ID，导致问题。

修复方法：

手工刷新block_device_mapping表的connection_info字段到正确的LUN_ID,重启VM。

定位过程：

发生问题的VM连接了两个卷，分别作为系统盘和数据盘

连接到　　e0c8da7e-baff-4530-a512-a67f71018e3f 位于 /dev/vda 上
连接到　　SVN数据盘 位于 /dev/vdb 上

通过nova instance-action-list可以查询到该VM有过多次迁移。

```
+----------------+--------------------------------------+---------+-----------------------------+
| Action         | Request_ID                           | Message | Start_Time                  |
+----------------+--------------------------------------+---------+-----------------------------+
| create         | req-1795e96c-4edf-4523-9ca3-8e5b5b7a1b70 | -   | 2017-05-02T07:30:25.000000 |
| stop           | req-2268cc9a-99f0-4d25-9fd5-98ac725ee282 | -   | 2017-05-02T08:25:04.000000 |
| start          | req-f915a33c-55aa-493a-a298-3a9a1ae7f092 | -   | 2017-05-02T08:25:38.000000 |
| live-migration | req-7faf7257-5b0e-4baa-be69-598686ae27ed | -   | 2017-05-10T07:46:49.000000 |
| live-migration | req-c5275596-5efb-4cc8-916e-f0dadf5cf466 | -   | 2017-05-10T08:26:21.000000 |
| live-migration | req-621be9c6-1c9f-4eb5-bc11-313ad4b45898 | -   | 2017-05-10T12:13:22.000000 |
| live-migration | req-b0a06b1d-a70b-4cc8-afc2-47313695f56f | -   | 2017-05-10T13:08:36.000000 |
| live-migration | req-d11c1b94-2634-416c-a368-e7c4a8f2f20e | -   | 2017-05-11T11:46:01.000000 |
| live-migration | req-9066325a-31d5-4bf5-89a8-15a56a3f2ba5 | Error | 2017-05-25T06:35:08.000000 |
| stop           | req-939b2741-3e83-4031-b705-ba70a3805ff3 | -   | 2017-06-05T02:28:54.000000 |
| start          | req-f0d1345e-0d41-4248-9751-665163b72e35 | -   | 2017-06-05T02:31:04.000000 |
| reboot         | req-8b193f1e-bd6c-4c57-9bcb-142b6fcf2320 | -   | 2017-06-05T03:09:21.000000 |
+----------------+--------------------------------------+---------+-----------------------------+
```

查询nova数据库的migrations表，可以获得每次迁移的详细信息。同时对比netapp后端的LUN映射发现：最后一次迁移（node13--->node11），似乎数据卷已经完成了迁移过程，在节点11上已经可以看到lun_id映射和/dev/disk/by-path下的软连接文件！但是系统盘似乎没有迁移成功。

created_at	updated_at	deleted_at	id	source_compute	dest_compute	dest_host	status	instance_uuid	old
2017-05-10 07:46:49	2017-05-10 07:46:55	(Null)	741	node13	node18	(Null)	error	66009d94-114f-4062-99b	
2017-05-10 08:26:21	2017-05-10 08:26:25	(Null)	770	node13	node18	(Null)	error	66009d94-114f-4062-99b	
2017-05-10 12:13:22	2017-05-10 12:13:28	(Null)	833	node13	node2	(Null)	error	66009d94-114f-4062-99b	
2017-05-10 13:08:36	2017-05-10 13:08:42	(Null)	851	node13	node3	(Null)	error	66009d94-114f-4062-99b	
2017-05-11 11:46:01	2017-05-11 11:46:06	(Null)	1008	node13	node1	(Null)	error	66009d94-114f-4062-99b	
2017-05-25 06:35:09	2017-05-25 06:36:09	(Null)	1419	node13	node11	(Null)	error	66009d94-114f-4062-99b	

同时查询block_device_mapping表的connection_info，发现信息有误！显然，block_device_mapping表在最后一次迁移前已经更新过，但是迁移失败后没有进行回滚。

重启VM虚机时，Nova用block_device_mapping中的connection_info覆盖了之前的LUN_ID。

```
{
    "driver_volume_type": "iscsi",
    "connector": {
        "initiator": "iqn.1994-05.com.redhat:e08ae3b9ff2",
        "ip": "172.24.9.21",
        "platform": "x86_64",
        "host": "node11",
        "do_local_attach": false,
        "os_type": "linux2",
        "multipath": false
    },
    "serial": "3de94ee8-30b8-4faf-82eb-24e1df144337",
    "data": {
        "device_path": "/dev/disk/by-path/ip-172.24.3.101:3260-iscsi-iqn.1992-08.com.netapp:sn.5a7a1dec1aeb11e79f8600a098ac0ce9:vs.11-lun-4",
        "target_discovered": false,
        "encrypted": false,
        "qos_specs": null,
        "target_iqn": "iqn.1992-08.com.netapp:sn.5a7a1dec1aeb11e79f8600a098ac0ce9:vs.11",
        "target_portal": "172.24.3.101:3260",
        "volume_id": "3de94ee8-30b8-4faf-82eb-24e1df144337",
        "target_lun": 4,
        "access_mode": "rw"
    }
}
{
    "driver_volume_type": "iscsi",
    "connector": {
        "initiator": "iqn.1994-05.com.redhat:e08ae3b9ff2",
        "ip": "172.24.9.21",
        "platform": "x86_64",
        "host": "node11",
        "do_local_attach": false,
        "os_type": "linux2",
        "multipath": false
    },
    "serial": "e0c8da7e-baff-4530-a512-a67f71018e3f",
    "data": {
        "device_path": "/dev/disk/by-path/ip-172.24.3.101:3260-iscsi-iqn.1992-08.com.netapp:sn.5a7a1dec1aeb11e79f8600a098ac0ce9:vs.11-lun-3",
        "target_discovered": false,
        "encrypted": false,
        "qos_specs": null,
        "target_iqn": "iqn.1992-08.com.netapp:sn.5a7a1dec1aeb11e79f8600a098ac0ce9:vs.11",
        "target_portal": "172.24.3.101:3260",
        "volume_id": "e0c8da7e-baff-4530-a512-a67f71018e3f",
        "target_lun": 3,
        "access_mode": "rw"
    }
}
```