

使用与排除故障发起者的VMware和思科VIC的LIBfc/请瞄准通信

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简介

本文描述如何使用隐藏的libfc调试获取低级可见性到用于在ESXi内的光纤信道(FC)通信的端口登录(PLOGI)进程。由启用debug_logging我们能发现关于延长的链路服务(ELS)帧的融合网络适配器的(CNA)信息例如结构登陆(FLOGI), 波尔特洛金(PLOGI), 该我们通常不能发现。这可以是有益的, 如果没有唾手可得的Finisar或SPAN和要保证什么主机is/is不完成在FC堆叠。

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支持的配置

目前与思科虚拟接口界面卡(VIC)的ESX只支持这, 其他适配器, 只要我知道不支持此功能。

识别当前设置

您能使用以下on命令ESXi主机保证此值已经设置:

From the CLI of ESXi:

```
esxcli system module parameters list -m libfc_92
```

```
esxcli system module parameters list -m libfc92
```

输出应该看似类似以下, 公告值如何没有为debug_logging配置, 是值我们在以下步骤更改。

```
~ # esxcli system module parameters list -m libfc_92
Name                Type  Value  Description
-----
debug_logging       int   a bit mask of logging levels
heap_initial        int   Initial heap size allocated for the driver.
heap_max            int   Maximum attainable heap size for the driver.
min_exch_pool_elem int   Minimum number of elements guaranteed to be allocated for exchange pool.
rec_tov             int   REC timeout value
skb_mpool_initial   int   Driver's minimum private socket buffer memory pool size.
skb_mpool_max       int   Maximum attainable private socket buffer memory pool size for the driver.
~ # esxcli system module parameters list -m libfc92
Name                Type  Value  Description
-----
debug_logging       int   a bit mask of logging levels
heap_initial        int   Initial heap size allocated for the driver.
heap_max            int   Maximum attainable heap size for the driver.
skb_mpool_initial   int   Driver's minimum private socket buffer memory pool size.
skb_mpool_max       int   Maximum attainable private socket buffer memory pool size for the driver.
~ # _
```

崔凡吉莱LIBfc debug_logging的设置

为了获得其他信息出现在我们需要启用debug_logging的ESXi的/var/log/vmkernel.log文件，并且必须重新启动主机：

```
esxcli system module parameters set -p debug_logging=0xf -m libfc_92
```

```
esxcli system module parameters set -p debug_logging=0xf -m libfc_92
```

在您输入后这发出命令您能再检查保证值当前设置为0xf：

```
~ # esxcli system module parameters set -p debug_logging=0xf -m libfc_92
~ # esxcli system module parameters set -p debug_logging=0xf -m libfc_92
~ # esxcli system module parameters list -m libfc_92
Name          Type  Value  Description
-----
debug_logging  int   0xf    a bit mask of logging levels
heap_initial   int           Initial heap size allocated for the driver.
heap_max       int           Maximum attainable heap size for the driver.
skb_mpool_initial int     Driver's minimum private socket buffer memory pool size.
skb_mpool_max  int     Maximum attainable private socket buffer memory pool size for the driver.
~ # esxcli system module parameters list -m libfc_92
Name          Type  Value  Description
-----
debug_logging  int   0xf    a bit mask of logging levels
heap_initial   int           Initial heap size allocated for the driver.
heap_max       int           Maximum attainable heap size for the driver.
min_exch_pool_elem int     Minimum number of elements guaranteed to be allocated for exchange pool.
rec_tov        int     REC timeout value
skb_mpool_initial int     Driver's minimum private socket buffer memory pool size.
skb_mpool_max  int     Maximum attainable private socket buffer memory pool size for the driver.
```

我们仍然没有完成，您将看不到新的日志出现，直到您重新启动ESXi主机。在您重新启动ESXi主机后您能验证您看到此在vmkernel.log文件的新建的更新数据通过运行以下发出命令：

```
cat /var/log/vmkernel.log | grep "<6>"
```

因为所有命令有它使他们容易查找的此<6>报头，包括下面截取此新建的有用的信息显示FLOGI和PLOGI状态的我的：

```
2016-04-01T16:12:39.672Z cpu21:8803)<6>fnic : 3 :: vNIC flags 0x8 luns per tgt 256
2016-04-01T16:12:39.672Z cpu21:8803)<6>fnic : 3 :: vNIC flogi_retries 8 flogi timeout 4000
2016-04-01T16:12:39.672Z cpu21:8803)<6>fnic : 3 :: vNIC plogi_retries 8 plogi timeout 20000
2016-04-01T16:12:39.672Z cpu21:8803)<6>fnic : 3 :: vNIC io throttle count 16 link dn timeout 30000
2016-04-01T16:12:39.672Z cpu21:8803)<6>fnic : 3 :: vNIC port dn io retries 30 port dn timeout 30000
2016-04-01T16:12:39.673Z cpu21:8803)<6>fnic : 3 :: vNIC interrupt mode: MSI-X
2016-04-01T16:12:39.673Z cpu21:8803)<6>fnic : 3 :: vNIC resources avail: wq 2 cp_wq 1 raw_wq 1 rq 1 cq 3 intr 4
2016-04-01T16:12:39.673Z cpu21:8803)<6>fnic : 3 :: firmware uses non-FIP mode
2016-04-01T16:12:39.680Z cpu21:8803)<6>host3: lport ffffffff: Entered RESET state from reset state
<6>Broadcom NetXtreme II CNIC Driver cnic v1.74.04.v50.1 (September 11, 2012)
<6>bnx2fc: Broadcom NetXtreme II FCoE Driver bnx2fc v1.74.02.v50.2 (Aug 28, 2012)
2016-04-01T16:12:40.341Z cpu1:8761)<6>host2: libfc: Link up on port ( 0)
2016-04-01T16:12:40.341Z cpu1:8761)<6>host2: lport 0: Entered FLOGI state from reset state
2016-04-01T16:12:40.354Z cpu2:8763)<6>host2: lport 0: Received a FLOGI accept
2016-04-01T16:12:40.354Z cpu2:8763)<6>host2: Assigned Port ID 10003
2016-04-01T16:12:40.354Z cpu2:8763)<6>host2: fip: received FLOGI LS_ACC using non-FIP mode
2016-04-01T16:12:40.354Z cpu2:8763)<6>host2: lport 10003: Entered DNS state from FLOGI state
2016-04-01T16:12:40.354Z cpu2:8763)<6>host2: rport fffffc: Login to port
2016-04-01T16:12:40.354Z cpu2:8763)<6>host2: rport fffffc: Port entered PLOGI state from Init state
2016-04-01T16:12:40.356Z cpu18:8733)<6>host2: rport fffffc: Received a PLOGI accept
2016-04-01T16:12:40.357Z cpu18:8733)<6>host2: rport fffffc: Port is Ready
2016-04-01T16:12:40.357Z cpu18:8733)<6>host2: rport fffffc: work event 1
2016-04-01T16:12:40.357Z cpu18:8733)<6>host2: rport fffffc: callback ev 1
2016-04-01T16:12:40.357Z cpu18:8733)<6>host2: lport 10003: Received a 1 event for port (fffffc)
```

崔凡吉莱debug_logging回到原始设置的LIBfc：

您能更改此回到默认通过插入下面2命令和重新启动ESXi主机。我们基本上调零从以前的更改送回此到默认：

```
esxcli system module parameters set -p debug_logging= -m libfc_92
```

```
esxcli system module parameters set -p debug_logging= -m libfcoe_92
```

您能运行同样命令再保证更改是成功的：

From the CLI of ESXi:

```
esxcli system module parameters list -m libfc_92
```

```
esxcli system module parameters list -m libfcoe_92
```

他们应该两个看起来象以下：

```
~ # tail /var/log/vmkernel.log | grep <6>
~ # esxcli system module parameters list -m libfc_92
Name                Type  Value  Description
-----
debug_logging       int   a bit mask of logging levels
heap_initial        int   Initial heap size allocated for the driver.
heap_max            int   Maximum attainable heap size for the driver.
min_exch_pool_elem int   Minimum number of elements guaranteed to be allocated for exchange pool.
rec_tov            int   REC timeout value
skb_mpool_initial   int   Driver's minimum private socket buffer memory pool size.
skb_mpool_max       int   Maximum attainable private socket buffer memory pool size for the driver.
~ # esxcli system module parameters list -m libfcoe_92
Name                Type  Value  Description
-----
debug_logging       int   a bit mask of logging levels
heap_initial        int   Initial heap size allocated for the driver.
heap_max            int   Maximum attainable heap size for the driver.
skb_mpool_initial   int   Driver's minimum private socket buffer memory pool size.
skb_mpool_max       int   Maximum attainable private socket buffer memory pool size for the driver.
~ # _
```

在重新启动以后您能保证调试的ESX主机在日志进来通过检查用此命令：

```
tail /var/log/vmkernel.log | grep "<6>"
```