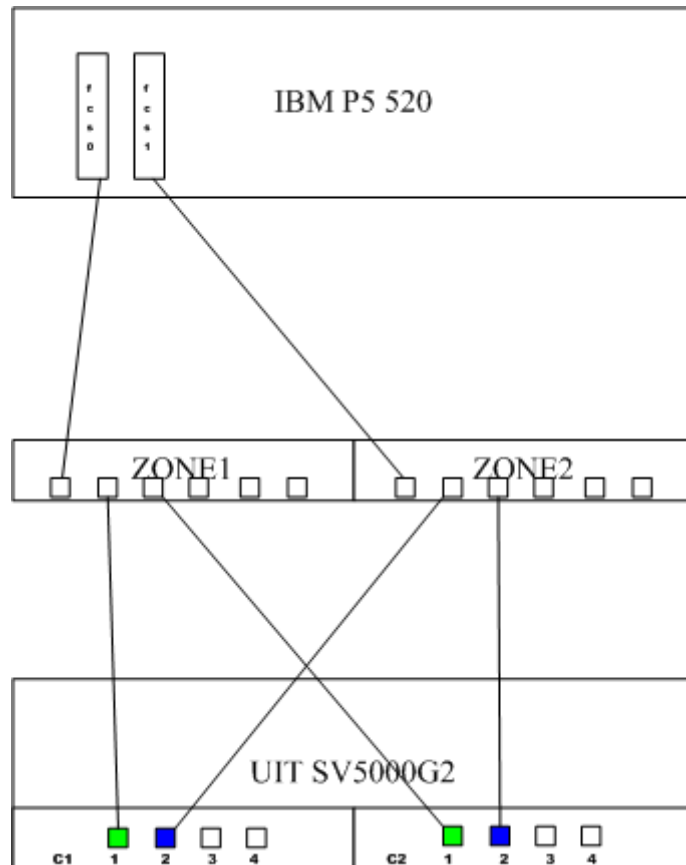


Cambex DPF for SV5000G2 配置最佳实践

一、环境描述：

序号	设备名称	数量
1	IBM P5 520 Power5 1.6Ghz*2/4Gb Emulex LP11000-M4*2 OS: AIX5.3 ML12 64bit kernel type	1
2	Cambex DPF v5.3.1.30 (30 天试用 license)	1
3	SV5000G2 with 1TB SATA HD*16 控制器 Firmware (1.5.2 Build 7145)	1
4	Broadcade SW300e 8Gb 光纤通道交换机(划分为 ZONE1 和 ZONE2)	1

测试拓扑：



二、测试科目：

序号	测试科目	测试结果
1	验证 Cambex DPF 多路径软件在 IBM AIX 平台对 SV5000G2 的 Failover 功能(双存储端口, 采用端口映射方式将两个 LV 分别映射给两个主机端口 c1p1 和 c2p1)	通过
2	验证 Cambex DPF 多路径软件在 IBM AIX 平台对 SV5000G2 的	通过

	Loadbalance 功能(双存储端口, 采用端口映射方式将两个 LV 分别映射给两个主机端口 c1p1 和 c2p1)	
3	验证 Cambex DPF 多路径软件在 IBM AIX 平台对 SV5000G2 的 Failover 功能(四存储端口, 采用端口映射方式将两个 LV 分别映射给四个主机端口 c1p1、c1p2、c2p1、c2p2)	通过
4	验证 Cambex DPF 多路径软件在 IBM AIX 平台对 SV5000G2 的 Loadbalance 功能(四存储端口, 采用端口映射方式将两个 LV 分别映射给四个主机端口 c1p1、c1p2、c2p1、c2p2)	通过

说明:

- 1、此测试报告仅为 Cambex DPF 的基本功能验证测试;
- 2、通过 dd 进行写文件测试的同时, 断开 AIX 主机端 I/O 的光纤, 约 35 秒即可实现 Failover;
- 3、通过 dd 进行写文件测试的同时, 断开存储端 I/O 的光纤, 约 15 秒即可实现 Failover;
- 4、开启 DPF 对 PV 的 loadbalance 功能, 接管时间与上述 Failover 场景基本相同。
- 5、使用的测试命令: dd if=/dev/zero of=/dev/sv5000lv bs=1M count=10000

三、测试过程描述:

- 1、规划 SW300e 光纤通道交换机 ZONE 及存储、主机端的光纤链路;
- 2、在 SV5000G2 上使用 16 块 1TB SATA 硬盘创建 DG、VG、LV, 在同一个 VG 中分别创建容量为 2TB、300GB 的 LV1 (lun0) 和 LV2(lun1);
- 3、在 IBM P5 520 上执行 cfgmgr 扫描硬件改动, 应能发现通过两/多条存储路径映射出的 PV;
- 4、在 IBM P5 520 上安装 Cambex DPF 软件, 修改临时 license 文件, 并将 SV5000G2 加入 DPF 的支持库;
- 5、在 IBM P5 520 上删除光纤卡及其子设备, 并重新执行 cfgmgr 扫描硬件改动。此时, 若 DPF 已配置成功, 重新扫描后的 PV 应为经 DPF 聚合后的 PV;
- 6、在经 DPF 聚合后的 PV hdisk1 上创建 sv5000vg 卷组、sv5000lv 逻辑卷, 通过 dd 命令向 sv5000lv 作写操作(dd if=/dev/zero of=/dev/sv5000lv bs=1M count=10000), 在写操作正在进行的过程中, 断开正在 I/O 的主机端光纤卡的光纤, 约 35s 后 I/O 操作能够自动切换到另外一块光纤卡路径, DPF 的 Failover 功能测试成功;
- 7、上述写入场景测试过程中, 断开正在 I/O 的 SV5000G2 上的主机端的光纤, 约 15s 后 I/O 操作能够自动切换到 SV5000G2 上另外连接光纤的主机端口, DPF 的 Failover 功能测试成功;
- 8、开启 DPF 对单个 PV hdisk1 的 Loadbalance 功能, 当通过 dd 命令向 sv5000lv 作写操作的同时, 在光纤通道交换机上查看 SV5000G2 的主机端口状态, 所有主机端口均有 I/O, 这说明 DPF 的 Loadbalance 功能已经生效, 在 AIX 系统中查看 DPF 的主路径, 并断开与

之对应的光纤卡的光纤，约 35s 后 I/O 操作能够在另外一块光纤卡路径自动持续，DPF 的 Failover 功能测试成功。

四、测试结论：

- 1、Cambex DPF 软件能够在 IBM AIX 平台实现 SV5000G2 的多路径绑定及 Failover 冗余功能；
- 2、Cambex DPF 软件能够在 IBM AIX 平台实现 SV5000G2 的多条主机光纤链路间实现 Loadbalance 功能。

说明：

在测试 SV5000G2 之前，在同样的主机和 SAN 环境下，先完成了 Cambex DPF 对 SV6100-4 (LSI 4900) 的测试，Failover 功能基本测试通过，Loadbalance 功能由于 SV6100 本身的 Loadbalance 功能受限而无法实现。

五、测试记录：

bash-3.2# prtconf (查看IBM P5 520主机的配置信息)

```
System Model: IBM,9111-520
Machine Serial Number: 06E711B
Processor Type: PowerPC_POWER5
Processor Implementation Mode: POWER 5
Processor Version: PV_5
Number Of Processors: 2
Processor Clock Speed: 1654 MHz
CPU Type: 64-bit
Kernel Type: 64-bit
LPAR Info: 1 06-E711B
Memory Size: 1856 MB
Good Memory Size: 1856 MB
Platform Firmware level: SF235_185
Firmware Version: IBM,SF235_185
Console Login: enable
Auto Restart: true
Full Core: false
```

Network Information

```
Host Name: aix_1
IP Address: 192.168.200.40
Sub Netmask: 255.255.255.0
Gateway: 192.168.200.1
```

Name Server:

Domain Name:

Paging Space Information

Total Paging Space: 4352MB

Percent Used: 1%

Volume Groups Information

```
=====
rootvg:
PV_NAME          PV STATE          TOTAL PPs   FREE PPs   FREE DISTRIBUTION
hdisk0           active            546         73         00..00..00..00..73
=====
```

0516-010 : Volume group must be varied on; use varyonvg command.

INSTALLED RESOURCE LIST

The following resources are installed on the machine.

+/- = Added or deleted from Resource List.

* = Diagnostic support not available.

Model Architecture: chrp

Model Implementation: Multiple Processor, PCI bus

+ sys0		System Object
+ sysplanar0		System Planar
* vio0		Virtual I/O Bus
* vsa1	U787A.001.DNZOKT0-P1-T2	LPAR Virtual Serial Adapter
* vty1	U787A.001.DNZOKT0-P1-T2-L0	Asynchronous Terminal
* vsa0	U787A.001.DNZOKT0-P1-T1	LPAR Virtual Serial Adapter
* vty0	U787A.001.DNZOKT0-P1-T1-L0	Asynchronous Terminal
* pci1	U787A.001.DNZOKT0-P1	PCI Bus
* pci12	U787A.001.DNZOKT0-P1	PCI Bus
* pci9	U787A.001.DNZOKT0-P1	PCI Bus
* pci10	U787A.001.DNZOKT0-P1-C3	PCI Bus
+ lai0	U787A.001.DNZOKT0-P1-C3-T1	GXT135P Graphics Adapter
* pci7	U787A.001.DNZOKT0-P1	PCI Bus
* ide0	U787A.001.DNZOKT0-P1-T12	ATA/IDE Controller Device
+ cd0	U787A.001.DNZOKT0-P4-D2	IDE DVD-ROM Drive
* pci8	U787A.001.DNZOKT0-P1	PCI Bus
+ sisscsia0	U787A.001.DNZOKT0-P1	PCI-X Dual Channel Ultra320 SCSI Adapter

```

+ scsi0          U787A.001.DNZOKT0-P1-T10      PCI-X Dual Channel Ultra320 SCSI
Adapter bus
+ hdisk0        U787A.001.DNZOKT0-P1-T10-L3-L0 16 Bit LVD SCSI Disk Drive (73400
MB)
+ ses0          U787A.001.DNZOKT0-P1-T10-L15-L0 SCSI Enclosure Services Device
+ scsi1         U787A.001.DNZOKT0-P1-T11      PCI-X Dual Channel Ultra320 SCSI
Adapter bus
* pci11        U787A.001.DNZOKT0-P1          PCI Bus
+ fcs1         U787A.001.DNZOKT0-P1-C5-T1    FC Adapter
* fcnet1       U787A.001.DNZOKT0-P1-C5-T1    Fibre Channel Network Protocol
Device
+ fscsil       U787A.001.DNZOKT0-P1-C5-T1    FC SCSI I/O Controller Protocol
Device
* pci0         U787A.001.DNZOKT0-P1          PCI Bus
* pci4         U787A.001.DNZOKT0-P1          PCI Bus
* pci5         U787A.001.DNZOKT0-P1          PCI Bus
* pci2         U787A.001.DNZOKT0-P1          PCI Bus
+ usbhc0       U787A.001.DNZOKT0-P1          USB Host Controller (33103500)
+ usbhc1       U787A.001.DNZOKT0-P1          USB Host Controller (33103500)
+ usbhc2       U787A.001.DNZOKT0-P1          USB Enhanced Host Controller
(3310e000)
* pci3         U787A.001.DNZOKT0-P1          PCI Bus
+ ent0         U787A.001.DNZOKT0-P1-T5      2-Port 10/100/1000 Base-TX PCI-X
Adapter (14108902)
+ ent1         U787A.001.DNZOKT0-P1-T6      2-Port 10/100/1000 Base-TX PCI-X
Adapter (14108902)
* pci6         U787A.001.DNZOKT0-P1          PCI Bus
+ fcs0         U787A.001.DNZOKT0-P1-C4-T1    FC Adapter
* fcnet0       U787A.001.DNZOKT0-P1-C4-T1    Fibre Channel Network Protocol
Device
+ fscsi0       U787A.001.DNZOKT0-P1-C4-T1    FC SCSI I/O Controller Protocol
Device
+ L2cache0    L2 Cache
+ mem0        Memory
+ proc0       Processor
+ proc2       Processor
bash-3.2#

```

```
bash-3.2# lsdev -Cc adapter |grep fcs (查看IBM小型机识别的FC HBA设备信息)
```

```

fcs0    Available 06-08 FC Adapter
fcs1    Available 0B-08 FC Adapter

```

```
bash-3.2# lsdev -Cc disk (查看IBM小型机识别到的PV信息，其中hdisk0为本地磁盘，
```

hdisk1—hdisk4是通过SV5000G2两个主机端口映射出的Lun0、Lun1；之后测试通过SV5000G2四个主机端口映射出的PV将多一倍)

```
hdisk0 Available 08-08-00-3,0 16 Bit LVD SCSI Disk Drive
hdisk1 Available 06-08-02 SV5000G2 Fibre Channel Storage
hdisk2 Available 06-08-02 SV5000G2 Fibre Channel Storage
hdisk3 Available 0B-08-02 SV5000G2 Fibre Channel Storage
hdisk4 Available 0B-08-02 SV5000G2 Fibre Channel Storage
```

bash-3.2# cd /tmp (进入/tmp目录)

bash-3.2# uncompress cbxdpf_5_3_1_30.image.Z (解压.Z扩展名的Cambex DPF软件压缩包)

bash-3.2# installp -acd /tmp/cbxdpf_5_3_1_30.image (安装解压后的Cambex DPF软件镜像文件)

bash-3.2# cd /usr/lpp/cbxdpf (进入DPF软件安装主目录)

bash-3.2# mv license.30day license (修改30天试用license文件)

bash-3.2# lscfg -vpl hdisk1 (查看从SV5000G2映射出的LUN0在IBM小机中的配置信息，获取SV5000G2的厂商、型号信息)

```
hdisk1          U787A.001.DNZ0KT0-P1-C4-T1-W20090024ECFFDF78-L0 SV5000G2 Fibre
Channel Storage
```

```
Manufacturer.....UIT
Machine Type and Model.....R_SV5000
ROS Level and ID.....312E3020
Serial Number.....FF010000
Device Specific. (Z0).....000005125F101002
Device Specific. (Z1).....6C795054
```

bash-3.2# ./dpfmktype **UIT R_SV5000** sv5000 (将SV5000G2的厂商、型号信息及定义的产品别名加入DPF支持库)

bash-3.2# rmdev -dl fcs0 -R (删除第一块FC HBA及子设备)

```
fcnet0 deleted
hdisk1 deleted
hdisk2 deleted
fscsi0 deleted
fcs0 deleted
```

bash-3.2# rmdev -dl fcs1 -R (删除第二块FC HBA及子设备)

```
fcnet1 deleted
hdisk3 deleted
hdisk4 deleted
fscsi1 deleted
fcs1 deleted
```

bash-3.2# cfmgr (重新扫描硬件改动，以使DPF将通过多条路径识别的PV聚合)

```
bash-3.2# lsdev -Cc disk (查看PV信息, 原来通过两条路径映射出的4个PV已被聚合成2个PV)
hdisk0 Available 08-08-00-3,0 16 Bit LVD SCSI Disk Drive
hdisk1 Available 06-08-02-01 SV5000G2 Fibre Channel Storage
hdisk2 Available 06-08-02-01 SV5000G2 Fibre Channel Storage
```

```
bash-3.2# mkvg -f -V 63 -y sv5000vg hdisk1 (在聚合后的hdisk1上创建名为sv5000vg的卷组)
sv5000vg
```

```
bash-3.2# lsvg -o (查看AIX系统中处于varyon状态的卷组)
sv5000vg
rootvg
```

```
bash-3.2# lsvg sv5000vg (查看sv5000vg的信息, 为下一步创建sv5000lv逻辑卷做参考)
VOLUME GROUP:          sv5000vg          VG IDENTIFIER:
00ce711b00004c0000000130241f91cb
VG STATE:              active          PP SIZE:          1024 megabyte(s)
VG PERMISSION:        read/write      TOTAL PPs:       1999 (2046976 megabytes)
MAX LVs:              256          FREE PPs:        1999 (2046976 megabytes)
LVs:                  0          USED PPs:        0 (0 megabytes)
OPEN LVs:             0          QUORUM:          2 (Enabled)
TOTAL PVs:            1          VG DESCRIPTORS: 2
STALE PVs:            0          STALE PPs:       0
ACTIVE PVs:           1          AUTO ON:         yes
MAX PPs per VG:      32512
MAX PPs per PV:      2032          MAX PVs:         16
LTG size (Dynamic): 256 kilobyte(s)  AUTO SYNC:       no
HOT SPARE:           no          BB POLICY:       relocatable
```

```
bash-3.2# mklv -y sv5000lv sv5000vg 1000 hdisk1 (在sv5000vg上创建大小为1000GB的sv5000lv)
sv5000lv
```

```
bash-3.2# lsvg -l sv5000vg (查看sv5000vg所包含的逻辑卷信息, 已确认sv5000lv已创建成功)
sv5000vg:
LV NAME          TYPE      LPs    PPs    PVs  LV STATE      MOUNT POINT
sv5000lv         jfs      1000   1000   1    closed/syncd  N/A
```

```
bash-3.2# time dd if=/dev/zero of=/dev/sv5000lv bs=1M count=10000 (通过dd命令在sv5000lv上写入10GB的文件, 已考量聚合后的LUN0的基本性能。默认情况下, DPF不对hdisk1打开loadbalance功能, 仅提供多路径Failover功能)
10000+0 records in.
10000+0 records out.
```

```
real    1m8.019s
user    0m0.186s
sys     0m38.751s
```

bash-3.2# ./dpfutil SET_LDBL hdisk1 yes (打开DPF对hdisk1的loadbalance功能, 这样hdisk既具备多路径Failover, 又具备Loadbalance功能)

bash-3.2# varyoffvg sv5000vg (卸载 sv5000vg, 以使hdisk1的Loadbalance功能生效)

bash-3.2# varyonvg sv5000vg (重新挂载sv5000vg)

bash-3.2# time dd if=/dev/zero of=/dev/sv5000lv bs=1M count=10000通过dd命令在sv5000lv上写入10GB的文件, 已考量聚合后的LUN0的基本性能。在打开DPF对hdisk1的loadbalance功能后, 对比之前的性能测试)

```
10000+0 records in.
10000+0 records out.
```

```
real    0m57.305s
user    0m0.065s
sys     0m41.964s
```

(通过实测, 在启用SV5000G2四个主机端口映射的条件下, 启用10个dd写命令: 未开启DPF对hdisk1的Loadbalance功能的吞吐量为165MB/s; 开启DPF对hdisk1的Loadbalance功能的吞吐量为205MB/s)

若需要Cambex技术支持, 可通过以下方式获取Cambex所需的信息:

```
bash-3.2# pwd
```

```
/usr/lpp/cbxdpf
```

```
bash-3.2# ls
```

```
.cr.status      MTYPE.add      XI0tech.cat    deinstl        e4000.cat
license         sv6100.add
6700.cat        MTYPE.del      Xport.add      dothill.cat    e400a.cat
odmadd.model_map sv6100.cat
8900.cat        MTYPE.msg      Xport.cat      dpf_bootlist   e6000.cat
runtrace        sv6100.del
COMPELNT.cat    READ_ME        Xport.del      dpfconfig      e8000.cat
sgi.cat         sv6100.msg
DDNS2A.cat     SV6100.add     Xport.msg      dpfinfo        gr710.cat
stkcbxF0.cat   vs900.cat
DataCore.cat    SV6100.cat     cbxdpf.cat     dpfinstall     gr720.cat
sv5000.add
IFT.cat         SV6100.del     cbxdpf_err     dpfmktype      gr730.cat
sv5000.cat
```



```

IQ1000.cat      SV6100.msg      cbxdpfar        dpfutil         gr740.cat
sv5000.del
MTYPE.READ_ME  TexasMem.cat    copyright.master e3000.cat       hdisk1
sv5000.msg

```

```
bash-3.2# ./dpfinfo
```

```
===== ./dpfinfo Tue May 24 17:33:15 CDT 2011 =====
```

```
AIX aix_1 3 5 00CE711B4C00 1 06-E711B
```

```
=== Driver ===
```

```
Fileset                Level State      Description
```

```
Path: /usr/lib/objrepos
```

```

cbxdpf.driver.obj      5.3.1.30  COMMITTED  Cambex Dynamic Path Failover
Driver
devices.pci.df1000f7.com 5.3.12.3  COMMITTED  Common PCI FC Adapter Device
devices.pci.df1000f7.diag
devices.pci.df1000f7.rte 5.3.0.30  COMMITTED  PCI FC Adapter Device Software
devices.pci.df1000f9.diag 5.3.0.0   COMMITTED  64-bit PCI FC Adapter Device
devices.pci.df1000f9.rte 5.3.0.30  COMMITTED  64-bit PCI FC Adapter Device
devices.pci.df1000fa.diag 5.3.0.0   COMMITTED  FC PCI-X Adapter Device
devices.pci.df1000fa.rte 5.3.9.0   COMMITTED  FC PCI-X Adapter Device
devices.pci.df1000fd.diag 5.3.9.0   COMMITTED  FC PCI-X Adapter Device
devices.pci.df1000fd.rte 5.3.9.0   COMMITTED  4Gb PCI-X FC Adapter Device
devices.pci.df1023fd.diag 5.3.8.0   COMMITTED  4Gb PCI-X FC Adapter
(df1023fd) Device Diagnostics
devices.pci.df1023fd.rte 5.3.10.0  COMMITTED  4Gb PCI-X FC Adapter
(df1023fd) Device Software
devices.pci.df1080f9.diag 5.3.0.0   COMMITTED  PCI-X FC Adapter Device
devices.pci.df1080f9.rte 5.3.9.0   COMMITTED  PCI-X FC Adapter Device
devices.pciex.df1000f114108a03.diag
(df1000f114108a03) Device
devices.pciex.df1000f114108a03.rte
devices.pciex.df1000f1df1024f1.diag
(df1000f1df1024f1) Device
devices.pciex.df1000f1df1024f1.rte
Card (df1000f1df1024f1) Device
devices.pciex.df1000fe.diag
devices.pciex.df1000fe.rte
devices.pci.df1000f7.com 5.3.12.3  COMMITTED  Common PCI FC Adapter Device
devices.pci.df1000f7.diag
devices.pci.df1000f7.rte 5.3.0.30  COMMITTED  PCI FC Adapter Device Software

```

```
=== /usr/lpp/cbxdpf/dpfinstall -iv ===
```

```
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfsv5000, 1008R_SV5000, 0803UIT]
```

```
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfsv5000, 1008R_SV5000, 0803UIT]
```

Found replaced entry dpf_model_map
[driver/fcp/pcbxdpfstkcbxF0, 100bOPENstorage, 0803STK]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfstkcbxF0, 1003CSM, 0803SUN]
Found replaced entry dpf_model_map
[driver/fcp/pcbxdpfstkcbxF0, 1009BladeCtrlr, 0803STK/SUN]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfstkcbxF0, 100aFLEXLINE
3, 0803STK]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfstkcbxF0, 1009LCSM100_F, 0803SUN]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfsgi, 1003TP9, 0803SGI]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfsgi, 1002IS, 0803SGI]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfgr740, 1005GR740, 0807FUJITSU]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfgr730, 1005GR730, 0807FUJITSU]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfgr720, 1005GR720, 0807FUJITSU]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfgr710, 1005GR710, 0807FUJITSU]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfe3000, 1005E3000, 0807FUJITSU]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfe6000, 1005E6000, 0807FUJITSU]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfe400a, 1005E400A, 0807FUJITSU]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfe4000, 1005E4000, 0807FUJITSU]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfe8000, 1005E8000, 0807FUJITSU]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfvs900, 1005VS900, 0807FUJITSU]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpf6700, 10046700, 0803MTI]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpf8900, 10048900, 0803MTI]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfDataCore, 1003SAN, 0808DataCore]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfDDNS2A, 1003S2A, 0803DDN]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfIFT, 1004F16F/F12F/ER25, 0803IFT]
Found replaced entry dpf_model_map
[driver/fcp/pcbxdpfCOMPELNT, 100aCompellent, 0808COMPELNT]
Found replaced entry dpf_model_map
[driver/fcp/pcbxdpfXIOtech, 1007STORAGE, 0807XIOtech]
Found replaced entry dpf_model_map
[driver/fcp/pcbxdpfXIOtech, 1009Magnitude, 0807XIOtech]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfIQ1000, 1006IQ1000, 0806IQSTOR]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfIQ1000, 1006iQ2880, 0806IQSTOR]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfTexasMem, 1004FC65, 0803TMS]
Found replaced entry dpf_model_map [driver/fcp/pcbxdpfXport, 1009Universal, 0803LSI]
Found replaced entry dpf_model_map [driver/fcp/cbxdpfsv5000, 1008R_SV5000, 0803UIT]
Found cbxdpf entry model_map [0807DotHill]
Found cbxdpf entry model_map [100bOPENstorage, 0803STK]
Found cbxdpf entry model_map [1003CSM, 0803SUN]
Found cbxdpf entry model_map [1009BladeCtrlr, 0803STK/SUN]
Found cbxdpf entry model_map [100aFLEXLINE 3, 0803STK]
Found cbxdpf entry model_map [1009LCSM100_F, 0803SUN]
Found cbxdpf entry model_map [0812STK FLEXLINE 6]
Found cbxdpf entry model_map [1003TP9, 0803SGI]

Found cbxdpf entry model_map [1002IS, 0803SGI]
Found cbxdpf entry model_map [1005GR740, 0807FUJITSU]
Found cbxdpf entry model_map [1005GR730, 0807FUJITSU]
Found cbxdpf entry model_map [1005GR720, 0807FUJITSU]
Found cbxdpf entry model_map [1005GR710, 0807FUJITSU]
Found cbxdpf entry model_map [1005E3000, 0807FUJITSU]
Found cbxdpf entry model_map [1005E6000, 0807FUJITSU]
Found cbxdpf entry model_map [1005E400A, 0807FUJITSU]
Found cbxdpf entry model_map [1005E4000, 0807FUJITSU]
Found cbxdpf entry model_map [1005E8000, 0807FUJITSU]
Found cbxdpf entry model_map [1005VS900, 0807FUJITSU]
Found cbxdpf entry model_map [10046700, 0803MTI]
Found cbxdpf entry model_map [10048900, 0803MTI]
Found cbxdpf entry model_map [1003SAN, 0808DataCore]
Found cbxdpf entry model_map [1003S2A, 0803DDN]
Found cbxdpf entry model_map [1004F16F/F12F/ER25, 0803IFT]
Found cbxdpf entry model_map [100aCompellent, 0808COMPELNT]
Found cbxdpf entry model_map [1009Magnitude, 0807XIOtech]
Found cbxdpf entry model_map [1007STORAGE, 0807XIOTECH]
Found cbxdpf entry model_map [1006IQ1000, 0806IQSTOR]
Found cbxdpf entry model_map [1006iQ2880, 0806IQSTOR]
Found cbxdpf entry model_map [1004FC65, 0803TMS]
Found cbxdpf entry model_map [1009Universal, 0803LSI]
Found cbxdpf entry model_map [1008R_SV5000, 0803UIT]
Found cbxdpf entry model_map [1008R_SV5000, 0803UIT]
Found cbxdpf entry model_map [1008R_SV5000, 0803UIT]
Found non-matching model_name [FCS_DEFLT_TAPE]
Found non-matching model_name [FCS_SCSA_TAPE]
Found non-matching model_map [0810IBM 3552]
Found non-matching model_map [0810IBM 3553]
Found non-matching model_map [0810IBM 1742-900]
Found non-matching model_map [0810IBM 1742]
Found non-matching model_map [0810IBM 1742-090]
Found non-matching model_map [0810IBM 1722-600]
Found non-matching model_map [0810IBM 1724-100]
Found non-matching model_map [0810IBM 3542]
Found non-matching model_map [081CIBM 1815 FAStT 0914]
Found non-matching model_map [081CIBM 1814 FAStT 0916]
Found non-matching model_map [081CIBM 1814 FAStT 2916]
Found non-matching model_name [2102-F10]
Found non-matching model_name [FCS_DEFLT_CDROM]
Found non-matching model_name [FCS_SCSA_CDROM]
Found non-matching model_name [FCS_DEFLT_DISK]
Found non-matching model_name [FCS_SCSA_DISK]

Found non-matching model_name [FCS_DEFLT_RWOPT]
Found non-matching model_name [FCS_SCSB_RWOPT]
Found non-matching model_map [0807DotHill]
Found non-matching model_map [0812STK FLEXLINE 6]
Found non-matching model_map [0810IBM 2810XIV]
Summary: model_maps=14 model_names=9 physical=34 virtual=0 replaced=32
=== Check license ===
License expires Wed Jun 8 18:17:46 2011

=== Check daemon ===
root 303258 188544 0 14:39:15 - 0:00 /usr/lpp/cbxdpf/cbxdpfar -t 30 -n 5
-r 600

=== Adapters ===
fcs0 U787A.001.DNZOKT0-P1-C4-T1 FC Adapter

Part Number.....LP11000-M4
Serial Number.....VM71659212
Network Address.....10000000C964ADB5
ROS Level and ID.....02C8211A
Device Specific. (Z0).....1036406D
Device Specific. (Z1).....00000000
Device Specific. (Z2).....00000000
Device Specific. (Z3).....03000909
Device Specific. (Z4).....FFC0115A
Device Specific. (Z5).....02C8211A
Device Specific. (Z6).....06C3211A
Device Specific. (Z7).....07C3211A
Device Specific. (Z8).....20000000C964ADB5
Device Specific. (Z9).....BS2.10A10
Device Specific. (ZA).....B1D2.10A10
Device Specific. (ZB).....B2D2.10A10
Device Specific. (ZC).....00000000
Hardware Location Code.....U787A.001.DNZOKT0-P1-C4-T1

lscfg: device Available not found.
lscfg: device 06-08 not found.
lscfg: device FC not found.
lscfg: device Adapter not found.
fcs1 U787A.001.DNZOKT0-P1-C5-T1 FC Adapter

Part Number.....LP11000-M4
Serial Number.....VM71658951

Network Address.....10000000C964B27C
ROS Level and ID.....02C8211A
Device Specific. (Z0).....1036406D
Device Specific. (Z1).....00000000
Device Specific. (Z2).....00000000
Device Specific. (Z3).....03000909
Device Specific. (Z4).....FFC0115A
Device Specific. (Z5).....02C8211A
Device Specific. (Z6).....06C3211A
Device Specific. (Z7).....07C3211A
Device Specific. (Z8).....20000000C964B27C
Device Specific. (Z9).....BS2.10A10
Device Specific. (ZA).....B1D2.10A10
Device Specific. (ZB).....B2D2.10A10
Device Specific. (ZC).....00000000
Hardware Location Code.....U787A.001.DNZ0KT0-P1-C5-T1

lscfg: device Available not found.

lscfg: device 0B-08 not found.

lscfg: device FC not found.

lscfg: device Adapter not found.

=== /usr/lpp/cbxdpf/dpfutil listall ===

#	Device	Active	Standby
	hdisk1	cbx0 (fscsi0 2,0)	cbx2 (fscsi1 2,0)
	hdisk2	cbx1 (fscsi0 2,1)	cbx3 (fscsi1 2,1)

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