

环境：两台 P630: P630\_1, P630\_2

磁盘阵列：7133-D40

共享卷组：oravg

1、 在两台计算机上设置 IP 地址

(1) 在 p630\_1 机上:

A. 配置第一块 boot 网卡

->#smitty

->Communications Applications and Services

->TCP/IP

->Minimum Configuration & Startup

select en2

\* HOSTNAME [p630\_1]

\* Internet ADDRESS (dotted decimal) [10.10.9.1]

Network MASK (dotted decimal) [255.255.255.0]

\* Network INTERFACE en1

NAMESERVER

Internet ADDRESS (dotted decimal) []

DOMAIN Name []

Default GATEWAY Address []

B. 配置第二块 boot 网卡

->#smitty

->Communications Applications and Services

->TCP/IP

->Minimum Configuration & Startup

select en1

\* HOSTNAME [p630\_1]

\* Internet ADDRESS (dotted decimal) [10.10.10.1]

Network MASK (dotted decimal) [255.255.255.0]

\* Network INTERFACE en3

NAMESERVER

Internet ADDRESS (dotted decimal) []

DOMAIN Name []

Default GATEWAY Address []

(2) 在 p630\_2 机上:

#### A. 配置第一块 boot 网卡

```
->#smitty
->Communications Applications and Services
->TCP/IP
->Minimum Configuration & Startup
```

```
select en2
```

```
* HOSTNAME [p630_2]
* Internet ADDRESS (dotted decimal) [10.10.9.2]
Network MASK (dotted decimal) [255.255.255.0]
* Network INTERFACE en1
NAMESERVER
Internet ADDRESS (dotted decimal) []
DOMAIN Name []
Default GATEWAY Address []
```

#### B. 配置第二块 boot 网卡

```
->#smitty
->Communications Applications and Services
->TCP/IP
->Minimum Configuration & Startup
```

```
select en1
```

```
* HOSTNAME [p630_2]
* Internet ADDRESS (dotted decimal) [10.10.10.2]
Network MASK (dotted decimal) [255.255.255.0]
* Network INTERFACE en3
NAMESERVER
Internet ADDRESS (dotted decimal) []
DOMAIN Name []
Default GATEWAY Address []
```

#### 2、修改/etc/hosts 文件,内容如下:

```
127.0.0.1 loopback localhost p630_1
10.10.9.1 boot_11 p630_1
10.10.10.1 boot_12 p630_1
192.168.1.1 service1
10.10.9.2 boot_21 p630_2
```

10.10.10.2 boot\_22 p630\_2

192.168.1.2 service2

3、在 p630\_1 上建立共享卷组

建立 oravg 共享卷组

->#smitty

->System Storage Management (Physical & Logical Storage)

->Logical Volume Manager

->Volume Groups

->Add a Volume Group

VOLUME GROUP name [oravg]

Physical partition SIZE in megabytes [128]

\* PHYSICAL VOLUME names [hdisk2]

Activate volume group AUTOMATICALLY [no]  
at system restart?

Volume Group MAJOR NUMBER []

Create VG concurrent Capable? [yes]

Auto-varyon in Concurrent Mode? [no]

4、在 p630\_2 上 import 共享卷组

(1) import oravg 共享卷组

->#smitty

->System Storage Management (Physical & Logical Storage)

->Logical Volume Manager

->Volume Groups

->Import a Volume Group

VOLUME GROUP name [oravg]

\* PHYSICAL VOLUME name [hdisk2]

Volume Group MAJOR NUMBER []

Make this VG Concurrent Capable no

Make default varyon of VG Concurrent? no

(2) 修改 oravg 共享卷组属性

->#smitty

->System Storage Management (Physical & Logical Storage)

->Logical Volume Manager

->Volume Groups

->Set Characteristics of a Volume Group

->Change a Volume Group

```
select * VOLUME GROUP name [oravg]
```

```
VOLUME GROUP name [oravg]
```

```
* ACTIVATE volume group AUTOMATICALLY [no]
```

```
at system restart?
```

```
* A QUORUM of disks required to keep the volume [yes]
```

```
group on-line?
```

```
Convert this VG to Concurrent Capable? [no]
```

```
* Autovaryon VG in Concurrent Mode? [no]
```

5、 在 p630\_1 和 p630\_2 上配置非 TCP/IP 网络

```
->#smitty
```

```
->Devices
```

```
->TTY
```

```
->Add a TTY
```

```
select tty rs232 Asynchronous Terminal
```

```
TTY type [tty]
```

```
TTY interface [rs232]
```

```
Description [Terminal asynchrone]
```

```
Parent adapter [sa3]
```

```
* PORT number [0]
```

```
BAUD rate [9600]
```

```
PARITY [none]
```

```
BITS per characte
```

```
Number of STOP BITS [1]
```

```
TERMINAL type [dumb]
```

```
STATE to be configured at boot time [available]
```

```
...
```

```
...
```

```
Enable LOGIN [disable]
```

用 Serial to Serial Cable 连接一号机和二号机的 COM3,作为 HACMP 的心跳线

测试心跳线:

1) 在 p630\_1 机上执行: cat < /dev/tty0

2) 在 p630\_2 上执行: cat /etc/hosts > /dev/tty0

3) 在 p630\_1 上若显示出 p630\_2 的/etc/hosts 文件内容,说明心跳线配置正确

6、 建立应用服务器启动脚本

在/etc/hascrpt 下分别建立 dbstart.sh, dbstop.sh, 然后修改文件属性为 755:

```
#chomd 755 *
```

## 7、 HACMP 的设置

### (1) 定义 CLUSTER

->Initialization and Standard Configuration

->Add Nodes to an HACMP Cluster

Add/Change/Show an HACMP Cluster

[输入字段]

\* Cluster Name [wly]

NOTE: HACMP must be RESTARTED

on all nodes in order for change to take effect

### (2) 定义 p630\_1 节点

-> Extended Configuration

-> Extended Topology Configuration

->Configure HACMP Nodes

-> Add a Node to the HACMP Cluster

Add a Node to the HACMP Cluster

[输入字段]

\* Node Name [p630\_1]

Communication Path to Node [] +

### (2) 定义 p630\_2 节点

-> Extended Configuration

-> Extended Topology Configuration

->Configure HACMP Nodes

-> Add a Node to the HACMP Cluster

Add a Node to the HACMP Cluster

[输入字段]

\* Node Name [p630\_1]

Communication Path to Node [] +

### (3) 定义网络

#### A. 定义 IP 网络

-> Extended Configuration

->Extended Topology Configuration

->Configure HACMP Networks

-> Add a Network to the HACMP Cluster

Add an IP-Based Network to the HACMP Cluster

[输入字段]

- \* Network Name [net\_ether\_01]
- \* Network Type ether
- \* Netmask [255.255.255.0] +
- \* Enable IP Address Takeover via IP Aliases [Yes] +
- IP Address Offset for Heartbeating over IP Aliases []

B. 定义非 IP 网络

- > Extended Configuration
- >Extended Topology Configuration
- >Configure HACMP Networks
- > Add a Network to the HACMP Cluster

选择# Pre-defined Serial Device Types 中的 rs232

Add a Serial Network to the HACMP Cluster

[输入字段]

- \* Network Name [net\_rs232\_01]
- \* Network Type rs232

(4) 定义网络接口

A. 定义 IP 网络接口

定义 Boot\_11 接口:

- > Extended Configuration
- > Extended Topology Configuration
- >Configure HACMP Communication Interfaces/Devices
- > Add Communication Interfaces/Devices

选择 Add Pre-defined Communication Interfaces and Devices

选择 Communication Interfaces

选择 net\_ether\_01 (0.0.0.0/0)

Add a Communication Interface

[输入字段]

- \* IP Label/Address [boot\_11] +
- \* Network Type ether
- \* Network Name net\_ether\_01
- \* Node Name [p630\_1] +
- Network Interface []

定义 Boot\_12 接口:

- > Extended Configuration
- > Extended Topology Configuration
- >Configure HACMP Communication Interfaces/Devices

-> Add Communication Interfaces/Devices

选择 Add Pre-defined Communication Interfaces and Devices

选择 Communication Interfaces

选择 net\_ether\_01 (0.0.0.0/0)

Add a Communication Interface

[输入字段]

\* IP Label/Address [boot\_12] +

\* Network Type ether

\* Network Name net\_ether\_01

\* Node Name [p630\_1] +

Network Interface []

定义 boot\_21 接口:

-> Extended Configuration

-> Extended Topology Configuration

->Configure HACMP Communication Interfaces/Devices

-> Add Communication Interfaces/Devices

选择 Add Pre-defined Communication Interfaces and Devices

选择 Communication Interfaces

选择 net\_ether\_01 (0.0.0.0/0)

Add a Communication Interface

[输入字段]

\* IP Label/Address [boot\_21] +

\* Network Type ether

\* Network Name net\_ether\_01

\* Node Name [p630\_2] +

Network Interface []

定义 boot\_22 接口:

-> Extended Configuration

-> Extended Topology Configuration

->Configure HACMP Communication Interfaces/Devices

-> Add Communication Interfaces/Devices

选择 Add Pre-defined Communication Interfaces and Devices

选择 Communication Interfaces

选择 net\_ether\_01 (0.0.0.0/0)

Add a Communication Interface

[输入字段]

```
* IP Label/Address [boot_22] +
* Network Type ether
* Network Name net_ether_01
* Node Name [p630_2] +
Network Interface []
```

#### B. 定义非 IP 网络接口

定义 p630\_1tty 接口:

```
-> Extended Configuration
-> Extended Topology Configuration
->Configure HACMP Communication Interfaces/Devices
-> Add Communication Interfaces/Devices
```

选择 Add Pre-defined Communication Interfaces and Devices

选择 Communication Device

选择 net\_rs232\_01

Add a Communication Device

[输入字段]

```
* Device Name [p630_1tty]
* Network Type rs232
* Network Name net_rs232_01
* Device Path [/dev/tty0]
* Node Name [p630_1]
```

定义 p630\_2tty 接口:

```
-> Extended Configuration
-> Extended Topology Configuration
->Configure HACMP Communication Interfaces/Devices
-> Add Communication Interfaces/Devices
```

选择 Add Pre-defined Communication Interfaces and Devices

选择 Communication Device

选择 net\_rs232\_01

Add a Communication Device

[输入字段]

```
* Device Name [p630_2tty]
* Network Type rs232
* Network Name net_rs232_01
* Device Path [/dev/tty0]
* Node Name [p630_2]
```

#### (5) 定义应用服务器

定义 wlyapp 应用服务器:



->Initialization and Standard Configuration

->Configure Application Servers

->Add an Application Server

Add Application Server

[输入字段]

\* Server Name [wlyapp]

\* Start Script [/etc/hascript/dbstart.sh]

\* Stop Script [/etc/hascript/dbstop.sh]

(6) 定义共享资源组

定义 wlyres 资源组

->Initialization and Standard Configuration

->Configure HACMP Resource Group

->Add a Resource Group

选择 Cascading

Add a Resource Group with a Cascading Management Policy (standard)

[输入字段]

\* Resource Group Name [wlyres]

\*Participating Node Names (Default Node Priority) [p630\_1 p630\_2] +

(7) 修改资源组属性

修改 wlyres 资源组属性:

->Initialization and Standard Configuration

->Configure HACMP Resource Group

-> Change/Show Resources for a Cascading Resource Group(standard)

Change/Show Resources for a Cascading Resource Group

[输入字段]

Resource Group Name wlyres

Participating Node Names (Default Node Priority) p630\_2 p630\_1

\* Service IP Labels/Addresses [] +

Volume Groups [oravg] +

Filesystems (empty is ALL for VGs specified) [] +

Application Servers [wlyapp] +

(8) 定义 Service IP

定义 p630\_1 的 service IP 地址:

->Initialization and Standard Configuration

->Configure Resources to Make Highly Available

->Configure Service IP Labels/Addresses

->Add a service IP Labels/Addresses

Add a Service IP Label/Address (standard)

[输入字段]

\* IP Label/Address [service1] +

\* Network Name [net\_ether\_01] +

## 8、 同步 HACMP 配置

->Initialization and Standard Configuration

-> Verify and Synchronize HACMP Configuration

Verify and Synchronize HACMP Configuration

[输入字段]

\* Verify, Synchronize or Both [Both] +

Force synchronization if verification fails? [No] +

\* Verify changes only? [No] +

\* Logging [Standard] +

## 9、 HACMP 服务的启动和停止

启动:

```
#smitty clstart
```

```
Start Cluster Services
```

[输入字段]

\* Start now, on system restart or both now +

Start Cluster Services on these nodes [p630\_1] +

BROADCAST message at startup? true +

Startup Cluster Lock Services? false +

Startup Cluster Information Daemon? false +

Reacquire resources after forced down ? false +

停止:

```
#smitty clstop
```

```
Stop Cluster Services
```

[输入字段]

\* Stop now, on system restart or both now +

Stop Cluster Services on these nodes [p630\_1] +

BROADCAST cluster shutdown? true +

\* Shutdown mode graceful+

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