

### Three-node clusters Active-Passive ( three sets: dev, test, prod)

Step 1 Save current online service groups on each node.

```
# /opt/VRTS/bin/hastatus -sum |grep `hostname` |grep ONLINE |grep -v Shared
```

```
root@pdxcluu210d# hastatus -sum |grep `hostname` |grep ONLINE |grep -v Shared
B Oracle_dcp140 pdxcluu210d Y N ONLINE
B Oracle_dcs102 pdxcluu210d Y N ONLINE
B Oracle_dcs107 pdxcluu210d Y N ONLINE
B Oracle_dcs112 pdxcluu210d Y N ONLINE
B Oracle_dcs113 pdxcluu210d Y N ONLINE
B Oracle_dds109 pdxcluu210d Y N ONLINE
B Oracle_din193 pdxcluu210d Y N ONLINE
```

NOTE: output the result into a file

Step 2 Failover online service groups from to-be-patched-node to the other two nodes.

```
# hagr -switch <group> to <target server>
```

```
/opt/VRTS/bin/hagr -switch Oracle_dcp140 pdxcluu211d
```

```
/opt/VRTS/bin/hagr -switch Oracle_dcs102 pdxcluu212d
```

...

use Round Robin for target host

Step 3 Shutdown server to single-user mode

```
init 0
```

Step 4 Start EndPoint process

Step 5 Patch

Step 6 Restart node

Step 7 Failback service groups from other nodes.

```
# hagr -switch <group> to <target server>
```

### Two-node clusters Active-Passive

Step 1 Shutdown passive node to single-user

Step 2 Start EndPoint process

Step 3 Patch

Step 4 Restart passive node

Step 5 Failover service groups from active node to passive node.

```
# hagrpswitch <group> to <target server>
```

Step 6 Shutdown active node to single-user

Step 7 Start EndPoint process

Step 8 Patch

Step 9 Restart node

### **Two-node clusters Active-Active**

Step 1 Offline service groups on to-be-patched-node

```
# hagrpsoffline <group> -sys <server>
```

Step 2 Shutdown node to single-user

Step 3 Start EndPoint process

Step 4 Patch

Step 5 Offline service groups on the other node

```
# hagrpsoffline <group> -sys <server>
```

Step 6 Restart the patched node

Step 7 Shutdown the other node to single-user mode

Step 8 Start EndPoint process

Step 9 Patch

Step 10 Restart node