ISDN overflow using CPL script

Application Note

Cisco VCS X5

D14167.02

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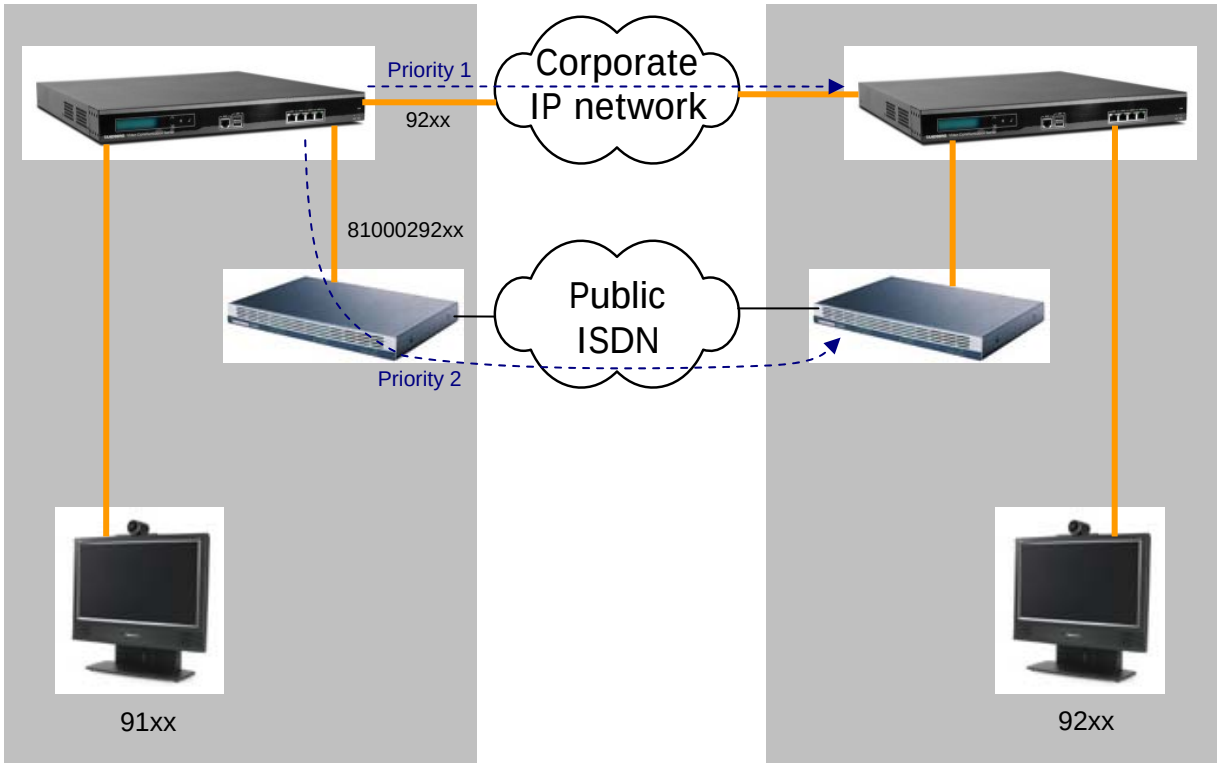
Deployment scenario

Where customers have limited IP bandwidth capacity between sites, or where customers wish to protect against IP network failure, an overflow route can be configured on their Cisco TelePresence Video Communication Server (Cisco VCS). The overflow route via the ISDN gateway will be used if a new call is made and the call cannot be made over the IP network connection.

This application note explains how to use a CPL script to prioritise call routes such that:

1. If there is enough IP bandwidth for the call, the Cisco VCS will route the call over IP.
2. If there is insufficient IP bandwidth for the call, the Cisco VCS will route the call via an ISDN gateway.



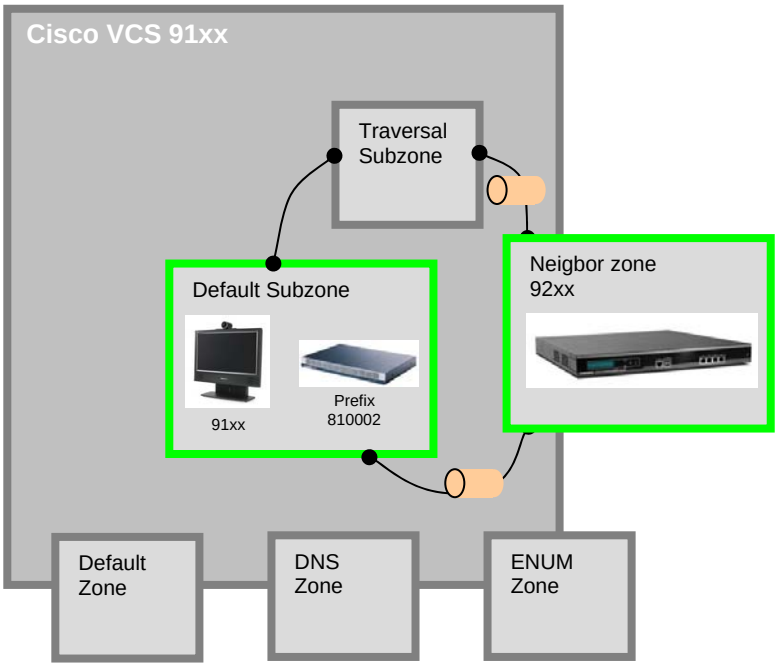
For the purposes of this example, let us assume:

- One Cisco VCS has endpoints 91xx registered to it
- The other Cisco VCS has endpoints 92xx registered to it
- To access the 92xx endpoints via the ISDN gateway the 91xx Cisco VCS needs to prefix the 92xx number with 810002

Configuration

In this scenario the 91xx Cisco VCS will be configured with a Neighbor Zone that matches 92xx and routes calls via the IP network to the 92xx Cisco VCS.

The ISDN gateway will register with the 91xx Cisco VCS gateway with a prefix registration ‘810002’.



A pipe will be defined that specifies the total bandwidth capacity of the IP link from the 91xx Cisco VCS to the 92xx Cisco VCS. This pipe will be applied to all links that can provide calls to the 92xx Neighbor Zone. If calls are made that exceed this 'total bandwidth limit' they will fail to the 92xx Neighbor Zone. If calls are made and the IP link is down, again, calls to the 92xx Neighbor Zone will fail.

A CPL script will be applied to the Cisco VCS which will add the '810002' prefix to the 92xx number and then try and place the call again, if a call to the 92xx Neighbor Zone fails.

The gateway will receive calls with the 810002 prefix and will forward them based on its own dial plan configuration.

The CPL script that will route calls via the IP link if capacity exists, and then via the gateway if the call fails to be routed via the IP link is as follows:

```
<?xml version="1.0" encoding="UTF-8" ?>
<cpl xmlns="urn:ietf:params:xml:ns:cpl"
     xmlns:taa="http://www.tandberg.net/cpl-extensions"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="urn:ietf:params:xml:ns:cpl cpl.xsd">
  <taa:routed>
    <address-switch field="destination">
      <address regex="92..">
        <!-- Proxy call to original 92xx destination -->
        <proxy>
          <failure>
            <!-- Call failed for some reason, try again using
                 the locally registered gateway -->
            <taa:location clear="yes" regex="(92..)" replace="810002\1">
              <proxy/>
            </taa:location>
          </failure>
        </proxy>
      </address>
    </address-switch>
  </taa:routed>
</cpl>
```

This CPL file should be loaded via the web interface by selecting **VCS configuration > Call policy > Configuration**, and then in the **Policy Files** section browse to this CPL file and then click Upload File.

Appendix 1 - Explanation of CPL script

```
<?xml version="1.0" encoding="UTF-8" ?>
```

xml header

```
<cpl xmlns="urn:ietf:params:xml:ns:cpl"
     xmlns:taa="http://www.tandberg.net/cpl-extensions"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="urn:ietf:params:xml:ns:cpl cpl.xsd">
```

Schemas to use

```
  <taa:routed>
```

Execute for all routed calls

```
    <address-switch field="destination">
```

Use destination (dialled number) to select action

```
      <address regex="92..">
        <!-- Proxy call to original 92xx destination -->
```

Does destination (dialled number) match 92xx?

```
        <proxy>
```

If destination (dialled number) matches 92xx then proxy (route) the call – *this will match the 92xx Neighbor Zone*

```
          <failure>
            <!-- Call failed for some reason, try again using
                 the locally registered gateway -->
```

If destination (dialled number) matches 92xx, but the proxy (routing) of the call fails …

```
            <taa:location clear="yes" regex="(92..)" replace="810002\1">
```

… clear the routing information and take the destination and prefix the destination number with 810002

```
              <proxy/>

            </taa:location>
          </failure>
        </proxy>
      </address>
    </address-switch>
  </taa:routed>
</cpl>
```

proxy (route) the call with the prefix 81002 – *this will match the gateway's prefix registration and so will be routed to the gateway*

For further information on CPL see the Cisco VCS Administrator Guide's CPL reference in the Appendices section.

Appendix 2 – Bandwidth 'nearly full' configuration

If the IP link has, say, 128kbps available and a new call requests a bandwidth of 384kbps, will the call be downspeeded to 128kpbs, or will it overflow to the gateway?

This choice is configurable in the Bandwidth Configuration. On the web browser interface select **VCS configuration > Bandwidth > Configuration**:

If **Downspeed total mode** is **On** then the call will be downspeeded and placed over the IP link.

If **Downspeed total mode** is **Off** then the call to the IP link will fail, and hence the dialled number will be prefixed and the call forwarded via the ISDN gateway.

For further information on Cisco VCS configuration see the Cisco VCS Administrator Guide