Dynamic Channel Selection

Purpose

When numerous APs broadcast within a given area, it increases the possibility of heightened radio interference, especially if some or all of APs are broadcasting on the same radio channel. If the interference becomes too great, then the network administrator must check his AP configuration options, and manually change the channel to one that no other AP is using (or at least a channel that has a lower level of interference) in order to give the connected stations a minimum degree of interference. Dynamic channel selection frees the network administrator from this task by letting the AP do it automatically. The AP can scan the area and set its channel based on the least amount of interference that it detects.

Original vs. Enhanced DCS

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<th>Original</th>
<th>Current</th>
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<tr>
<td>DCS configurations</td>
<td>Global settings</td>
<td>Per radio settings</td>
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<tr>
<td>11ac support</td>
<td>n/a</td>
<td>Support 80MHz algorithm</td>
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<tr>
<td>DCS NOW</td>
<td>Global invoke</td>
<td>Per AP, per AP-group. DCS have to be activated</td>
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<td>5G manual</td>
<td>Support</td>
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<tr>
<td>Set last DCS channel</td>
<td>n/a</td>
<td>Support</td>
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(For example, the channel is set to 1 by DCS. Then, disable DCS and change the channel to 6 manually. When enable DCS again the channel will be set be previous channel 1 which is selected by DCS.)
DCS assessment at beginning | n/a | 3 times

**Configuration**

1. Per radio from **CONFIGURATION > Object > AP Profile > Radio**
   - **Channel Selection** is "Manual" by default.

   ![ZyXEL NXC2500 Configuration](image1)

- **2.4 GHz General Settings**

   ![Edit Radio Profile Class_3th_grade_radio1](image2)
- Channels will be based on country code.

- **Channel Selection**: DCS: to have the AP search for available channels automatically in the 2.4 GHz band. The available channels vary depending on what you select in the “2.4 GHz Channel Deployment” field.
2.4 GHz Channel Deployment:

"Three-Channel Deployment" uses 1, 6 and 11 channels.
"Four-Channel Deployment" uses 1, 4, 7 and 11 channels for FCC, and 1, 5, 9, 13 channels for ETSI.

2.4 GHz Channel Selection Method: Choose "Manual" to select the channels that you want the AP to use.
- 5 GHz general settings

- **Channel Selection:** DCS
  1. 5 GHz does not support "Manual" in "Channel Selection Method" field.
2. Support 802.11ac 80 MHz
3. “**DCS Now**”: will invoke DCS procedure immediately, and change channel force if required regardless of whether the “**Client Aware**” is enable or not. You can select more than one AP or AP group.

- Per AP, go to **CONFIGURATION > Wireless> AP Management > Mgmt. AP List.**

- Per AP Group, go to **CONFIGURATION > Wireless> AP Management > AP Group.**
Log

View the DCS logs via **MONTIOR > Log > View AP Log**.

1. Choose the AP that you want to query in “Select an AP” field and click on the “Query” button.
2. Click on “Show Filter” to open filter field.

3. Select “WLAN Dynamic Channel Selection” in the “Display” field and click on the “Search” button.