The AP 2800 and 3800 contain a Flexible Radio Architecture; in a sense the AP is a tri-band radio as it contains a dedicated 5–GHz radio to serve clients and another Flexible Radio (known as an XOR radio) that can be assigned different functions within the network.

The flexible radio is similar to the previous XOR radio used in the Cisco WSSI/WSM modules for the AP 3700, but this new flexible radio module is able to be configured to serve clients in either 2.4-GHz or 5–GHz or serially scan both 2.4-GHz and 5–GHz on the flexible radio while the main 5–GHz radio serves clients.

*Figure 1: Flexible Radio Assignment*

- Pervasive 2.4GHz and 5GHz coverage
- Default operating role
- Increase network capacity and performance
- Maximum over the air data rate up to 6.2Gbps
- High density client performance improvements
- Secure network from Non-Wi-Fi interference, wIPS attackers, and rogue clients/access points
- Scan both 2.4GHz and 6GHz for security threats
- Proactively monitors network performance and adjusts overall network performance
- Tracks and corrects performance degradations
- Improves client location accuracy
- Serve client on 5GHz

* Denotes feature availability post-POC
Flexible Radio Architecture (FRA) System

In addition to the dedicated 5–GHz radio, FRA enabled APs like the AP2800 and AP 3800 contain an additional integrated 2.4/5–GHz XOR "selectable radio" for additional flexibility.

An FRA system uses a special XOR radio that consists of the following:

- 2.4–GHz and 5–GHz on the same silicon
- Allows selection of 2.4–GHz or 5–GHz for serving clients (default is 2.4–GHz)
- Allows serial scanning of all 2.4–GHz and 5–GHz channels (in monitor "WSM" mode)
- Role selection is manual or Automatic–RRM
- Previous WSSI or WSM modules for 3700 were XOR in design
- This feature is now integrated into AP 2800 and AP 3800

The benefits of an FRA system are many and address the following issues:

- Solves the problem of 2.4–GHz over-coverage
- Creating 2 diverse 5–GHz cells doubles the airtime available
- Permits one AP with one Ethernet drop to function like two 5–GHz APs
- Introduces concept of Macro/Micro cells for airtime efficiency
- Allows more bandwidth to be applied to an area within a larger coverage cell
- Can be used to address non-linear traffic
- Enhances the High Density Experience(HDX) with one AP
- XOR radio can be user selected in either band servicing clients or in monitor mode

When using FRA with the internal antenna ("I" series models), two 5–GHz radios may be used in a Micro/Macro cell mode. When using FRA with external antenna ("E/P" models) the antennas may be placed to enable the creation of two completely separate Macro (wide area cells) or two Micro cells (small cells) for HDX or any combination.