

# Cisco High Density Experience (HDX): Enhanced

## Cisco HDX Manages Performance on Crowded Wi-Fi Networks

Wi-Fi traffic is everywhere. More users – employees, customers, and guests alike – are connecting to the network. Most of these users carry multiple Wi-Fi devices, and many devices support only wireless connectivity. All this leads to lots of very dense Wi-Fi traffic in the air. And with the addition of wireless IoT devices, networks are only going to get more crowded.

That's why Cisco has enhanced its High Density Experience (HDX) suite of solutions, which automatically manages the airwaves and improves Wi-Fi performance. Available on Cisco's Indoor Access Points the Cisco® Aironet® 4800, 3800 and 2800 Series and the Cisco's Outdoor Access Points the Cisco Aironet 1570 and 1560 Series Outdoor Access Point, HDX is regularly updated with new features that alleviate high-density network strain and improve user experiences as 802.11ac and other trends load the airwaves with more traffic.

## Managing your Airwaves

- Alleviate network strain when large volumes of client devices contend for access point connectivity
- Improve Wi-Fi throughput and spectrum efficiency
- Prevent unnecessary Wi-Fi disconnections
- Enable access points to quickly change channels to mitigate interference or narrow bandwidth instead of abandoning the entire channel
- Allocate air time to specific user groups

## Next steps

To learn more about the Cisco HDX solution, visit <https://www.cisco.com/c/en/us/products/collateral/wireless/aironet-3700-series/white-paper-c11-731923.html> or for information on the Cisco Aironet 4800, 3800, 2800, 1560 and 1570 Series access point, visit: <https://www.cisco.com/c/en/us/products/wireless/index.html>

## Simplifying and Automating RF Tasks

Below are some of the more recent HDX feature enhancements:

- **Cisco DNA Center:** a complete software-based network automation and assurance solution. Cisco DNA Center allows your network to deploy faster and run smarter with reduced risk.
- **Cisco Aironet Active Sensor:** a compact wireless sensor that test drives real-world experiences on your network. It proactively identifies issues by simulating client experiences and enhances iOS POV.
- **Intelligent Capture:** probes your network and provides Cisco DNA Center with analysis that triggers automatic intelligence and mitigates wireless issues. It tracks 240+ anomalies, instantly reviews all packets on demand and emulates the on-site network administrator.
- **Enhanced Optimized Roaming:** If performance degrades as Wi-Fi users move, this feature intelligently steers clients to an access point with a stronger signal – without interrupting the connection.
- **CleanAir® for 160-MHz Channels:** Proactive protection against RF interference with spectrum scanning, source identification, and remediation that now works across 160-MHz channel widths.
- **ClientLink:** Cisco's patented beamforming technology that improves performance of 802.11ac clients as well as 802.11a/g/n legacy clients.
- **Dynamic Bandwidth Selection (with FlexDFS):** Continually analyzes and selects the best channel width for use in current conditions. If radar is detected on part, but not all, of the frequency, the access point can narrow the serving channel from 160 to 80 to 40 or 20 MHz, rather than moving entirely to a new frequency, enhancing spectrum efficiency.
- **Event-Driven Radio Resource Management (ED-RRM):** Rapidly changes channels to avoid interference, doing in seconds what previously could take minutes. IT can also set thresholds to determine when traffic automatically moves to a clear or less busy channel.
- **HDX Air Time Fairness (ATF):** Simplifies Wi-Fi traffic management by enabling network administrators to allocate specific percentages of airtime to heterogeneous groups of clients or customers.