

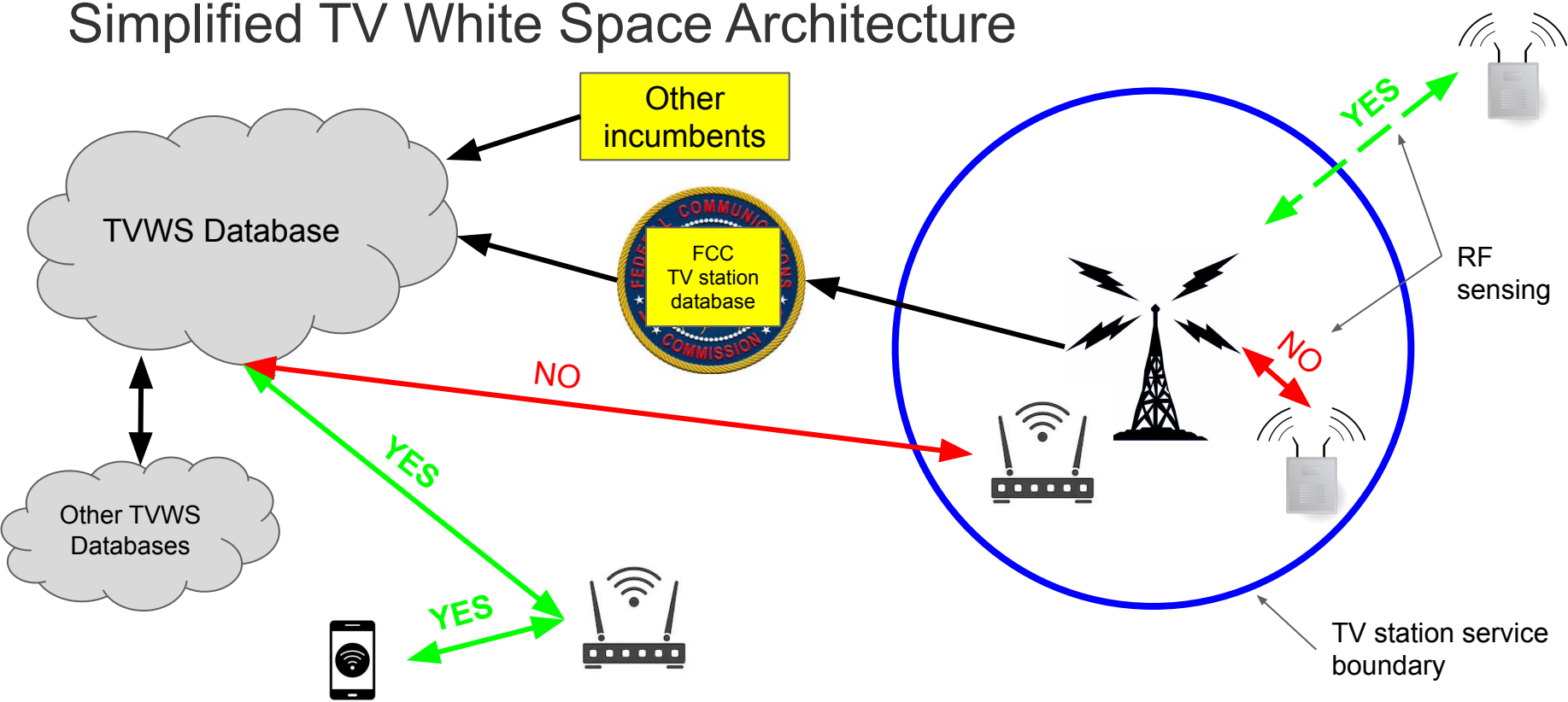


# U.S. Spectrum Sharing Implementations

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WinnForum Virtual Spectrum Sharing Deep Dive  
September 23, 2020

# Simplified TV White Space Architecture



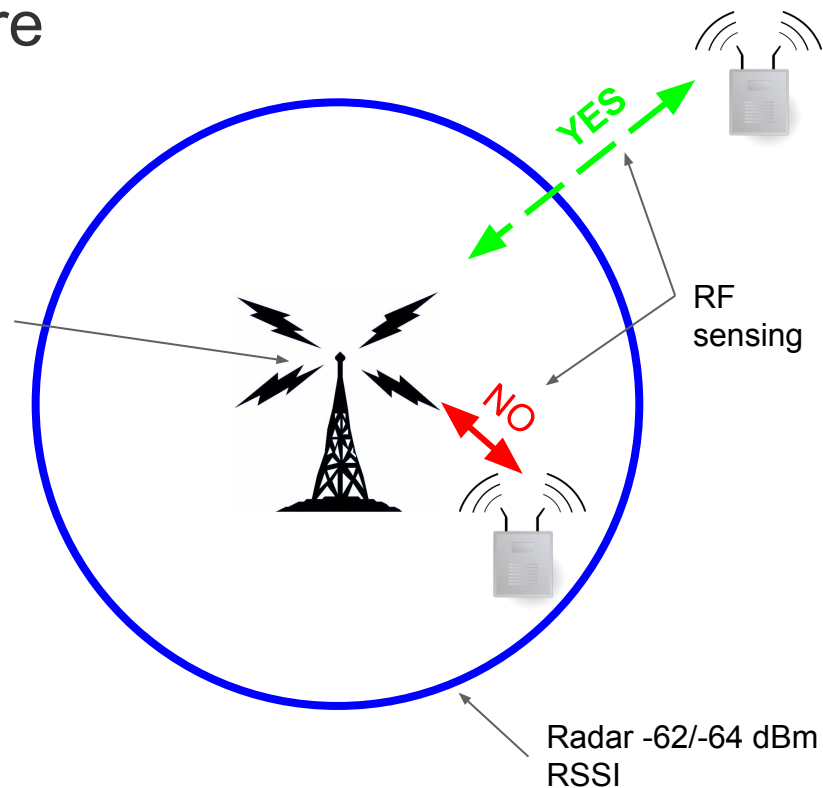
# Simplified 5 GHz DFS Architecture

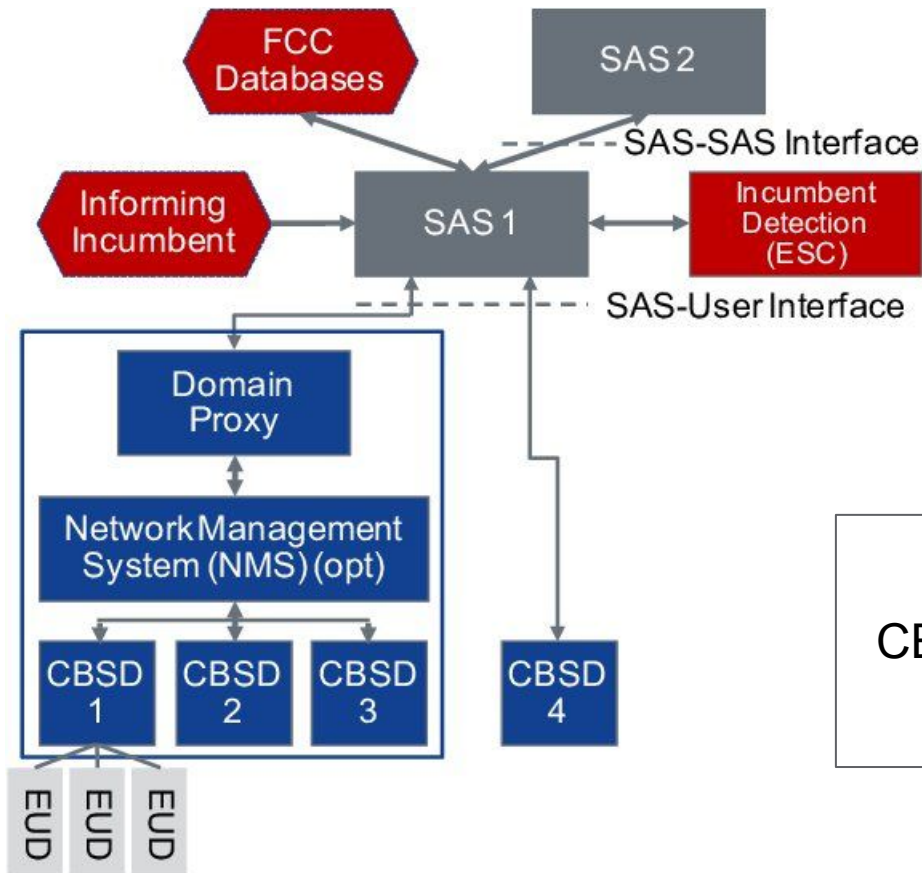
Terminal Doppler  
Weather Radars  
and Range  
Instrumentation  
Radars

For more information on DFS history:

[NTIA Technical Report TR-20-544](#)

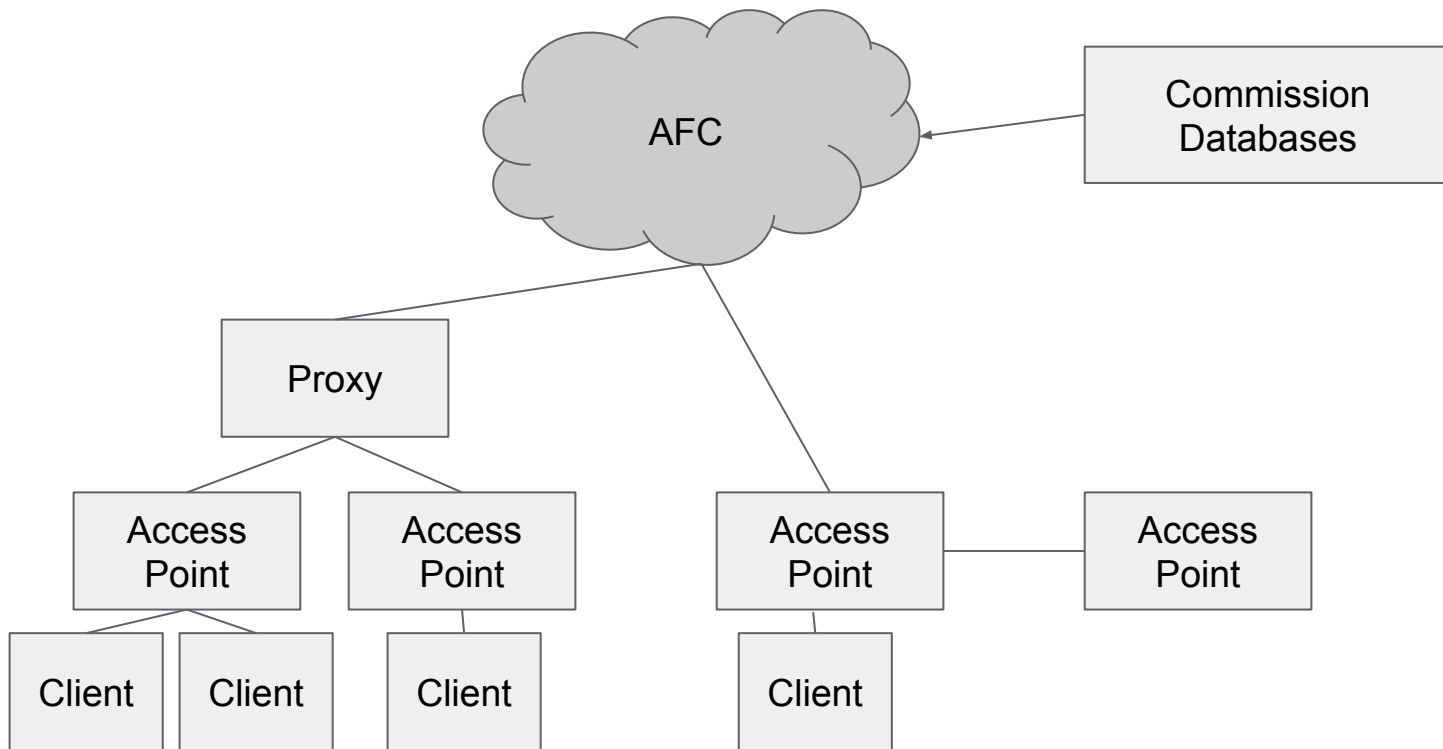
*Lessons Learned from the Development and Deployment of 5 GHz Unlicensed National Information Infrastructure (U NII) Dynamic Frequency Selection (DFS) Devices*



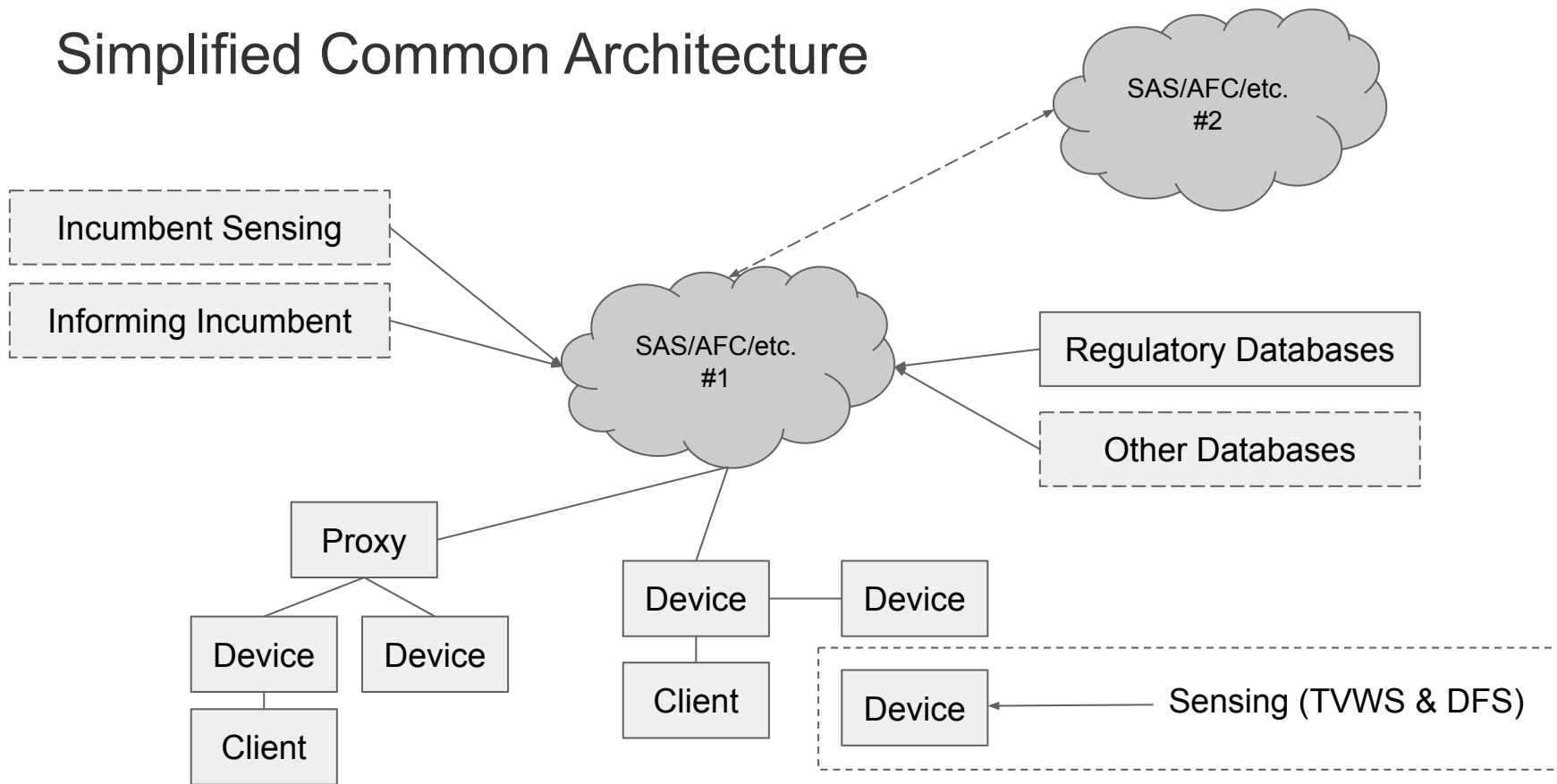


CBRS Functional Architecture

# Simplified 6 GHz AFC Architecture



# Simplified Common Architecture



## Lessons Learned

- Substantial commonalities in sharing architecture and implementation over the last 15+ years across TVWS, CBRS, and AFC
- TVWS was the first deployed
- CBRS is the first large-scale test
  - Seems to work so far
  - Tens of thousands of deployed base stations
  - No interference complaints from incumbents
- Have we achieved the optimum solution in one try?
- Are there alternative architectures that should be considered?