



PAL

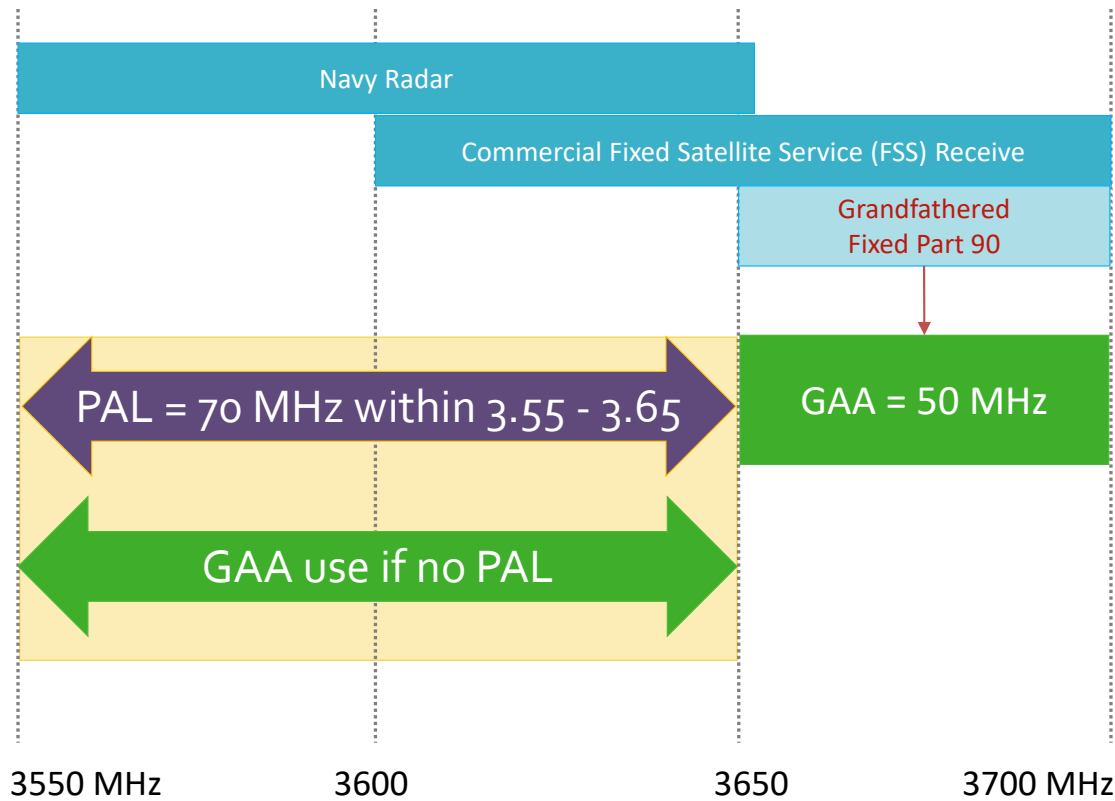
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Disclaimer

What is included in this presentation reflects FW's opinion regarding SAS coordination. The right for other SAS Administrators to provide different opinions is reserved

Reminder: PAL



Incumbents

- Protected from lower tier users.
- Shipborne and land-based radars
- Navy periodically uses 10 -20 MHz in select locations – 19 ships
- 17 in-band FSS stations
- [GWPZ transition effective 10/17/20](#)

Priority Access License

- [Use-or-share priority over GAA](#)
- Licensed at 4 max / licensee
- US County based, 10-year term
- 10 MHz blocks, up to 7 per County

General Authorized Access

- Can use any spectrum not in use
- Must yield to higher tier PAL and incumbent users
- [150 MHz available today until PPA implementation](#)

Some PAL Auction Statistics

\$4,585,663,345 Billion Raised

\$4.6B in proceeds at Average \$/MHz POP: \$0.22

of Licenses sold: 20,625

of counties: 3220

of Licenses unsold: 2,006

of winning bidders in the first PN: 228*

of bidders in the 2nd PN: 245*

of licensees fully granted: 220*

Remaining bidders to be granted: 25*

Total number of licenses granted: 17450*

Remaining licenses to be granted: 3175*

*By the end of April 2021

PAL License Winners	PAL License Total	Net Payment
Verizon	557	\$1,893,791,991
Dish Network	5,492	\$912,939,410
Charter	210	\$464,251,209
Comcast	830	\$458,725,900
Cox	470	\$212,805,412
Southern California Edison	20	\$118,951,433
Windstream	1,014	\$38,534,863
Mediacom	576	\$29,478,887
Nextlink Internet	1,072	\$28,489,750
JBG SMITH	7	\$25,274,477
Sempra Energy	3	\$21,273,340
ATN International	1,569	\$20,396,530
Claro Puerto Rico	231	\$18,887,528
Alabama Power	271	\$18,878,280
Shentel	262	\$16,118,381
VTX1 Companies	112	\$15,373,263
Viaero	558	\$15,087,268
U.S. Cellular	243	\$13,538,232
Watch Communications	517	\$10,942,047
Cable One	547	\$10,544,441

PAL Channel Mapping Approach

- By design, the FCC did not assign PAL channels as part of auction process
- Each PAL Licensee will be assigned a semi-permanent physical channel for each license through SAS Admin cooperation
- Except when CBSDs are impacted by Tier 1 Incumbents, the PAL channel assignment is permanent. This is called steady-state PAL channels.
- Other Constraints
 - Encumbrances in each channel
 - OOB requirements

At the conclusion of the auction and prior to PAL use commencing, and at the times requested by the Commission, SAS Administrators shall cooperate to apply appropriate protocols to allocate and to assign “steady-state” frequencies to PAL Licensees to meet FCC requirements 96.11 (a)(3), 96.13, 96.31, 96.25(b)(1)(i), and 96.25(b)(2)(i), as well as meeting incumbent protection requirements. The SAS Administrators may consider additional constraints and objectives provided by PAL Licensees. The proposed allocation methodology shall be presented to the PAL Licensees for review and comment.

WinnF PAL Channel Mapping (WinnF-TS-0112)
R2-SPU-10: *PAL Channel Assignment Planning*

PAL Channel Mapping Regulatory Requirements

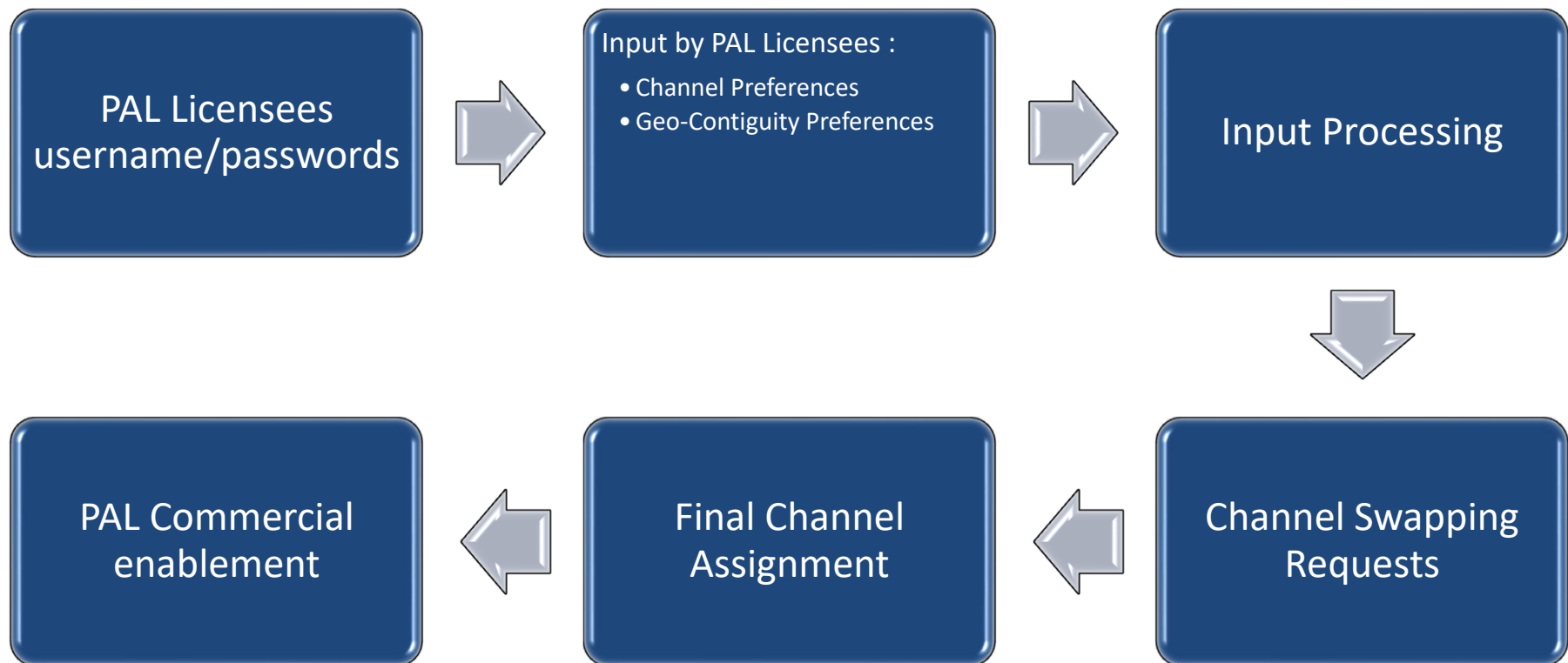
A SAS must assign geographically contiguous PALs held by the same Priority Access Licensee to the same channels in each geographic area, to the extent feasible. The SAS may temporarily reassign individual PALs held by the same Priority Access Licensee to different channels, so that geographical contiguity is temporarily not maintained, to the extent necessary to protect Incumbent Users or if necessary, to perform its required functions under subpart F.

96.25 (b)(1)(i): *Contiguous Geographic Areas*

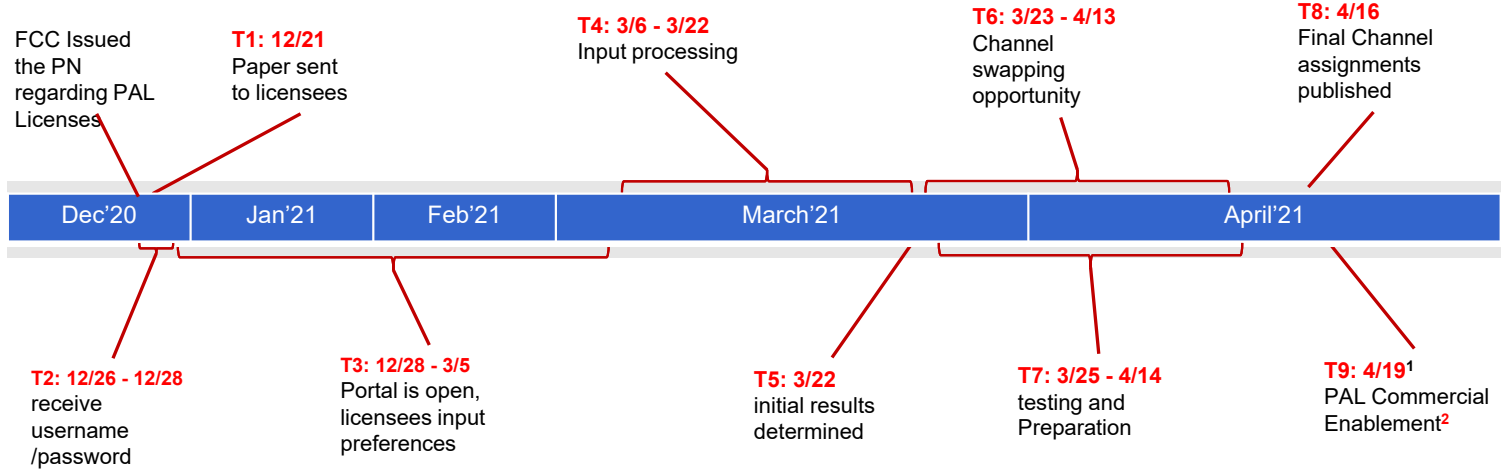
A SAS must assign multiple channels held by the same Priority Access Licensee to contiguous channels in the same License Area, to the extent feasible. The SAS may temporarily reassign individual PALs to non-contiguous channels to the extent necessary to protect Incumbent Users or if necessary, to perform its required functions under subpart F.

96.25 (b)(2)(i): *Contiguous Channels*

PAL Semi-Static Channel Mapping Process



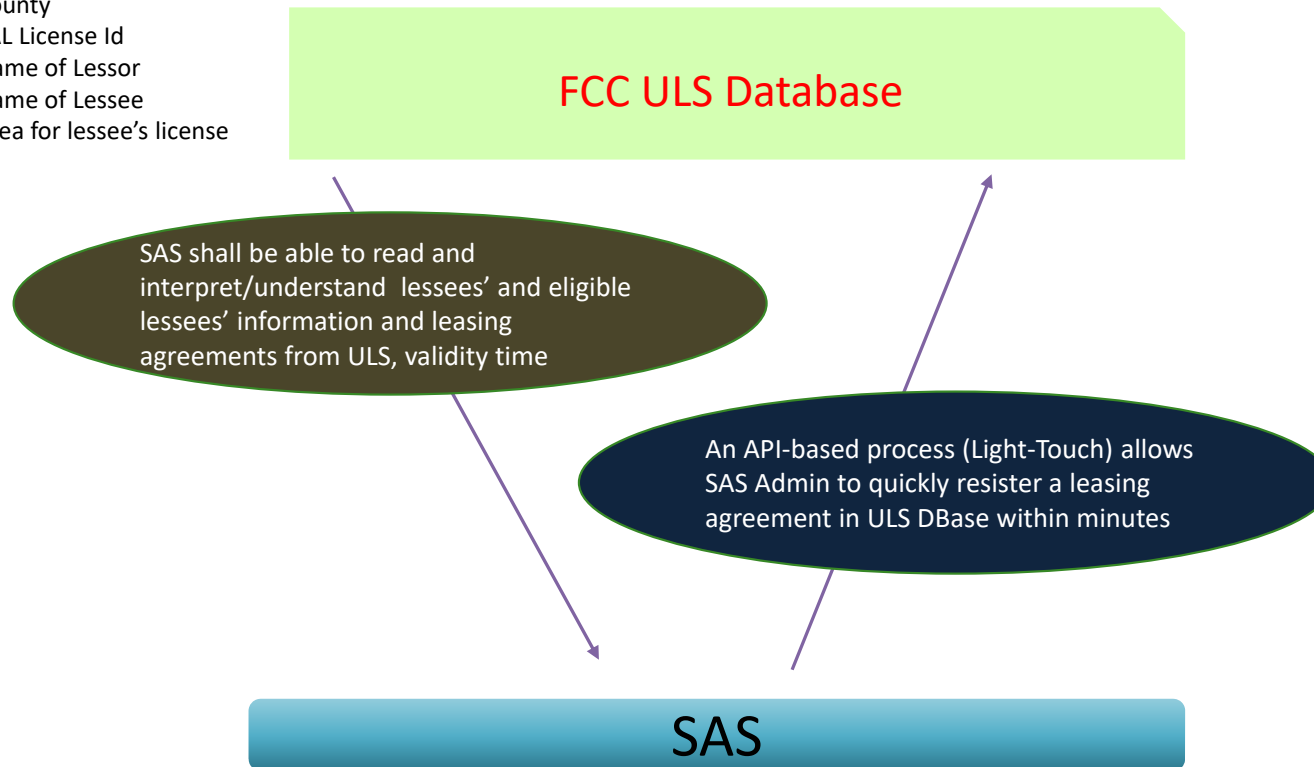
PAL Channel Mapping Timeline



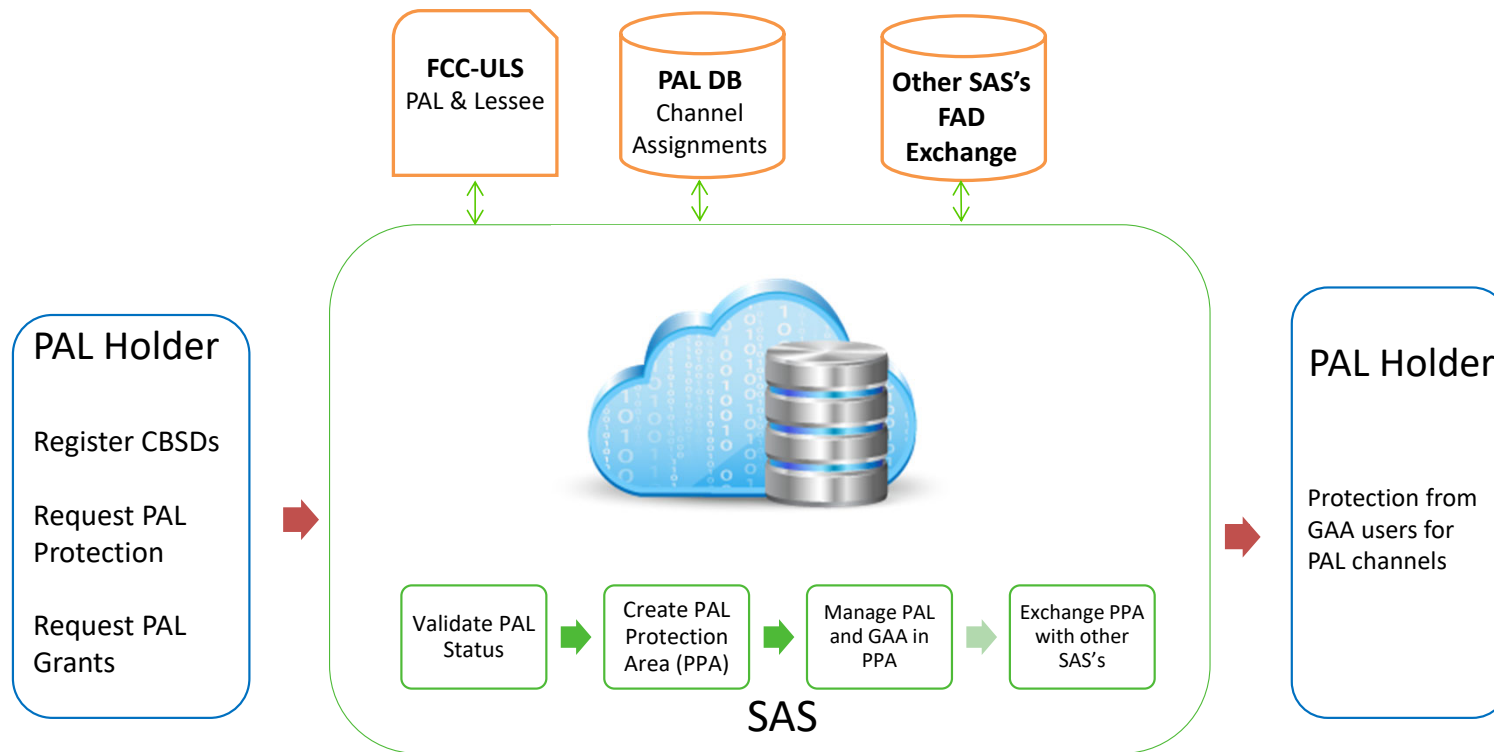
1. PAL Enablement is triggered at the CPAS process occurring at the midnight (PST) of this day, going into the next day.
2. PAL Commercial Enablement may only be performed by Licensees whose PAL licenses are granted by FCC's Public notices issued before this time. Other Licenses may be enabled only when they are granted by FCC, according to timeline coordinated by SAS Administrators.

FCC PAL Leasing Light Touch Process

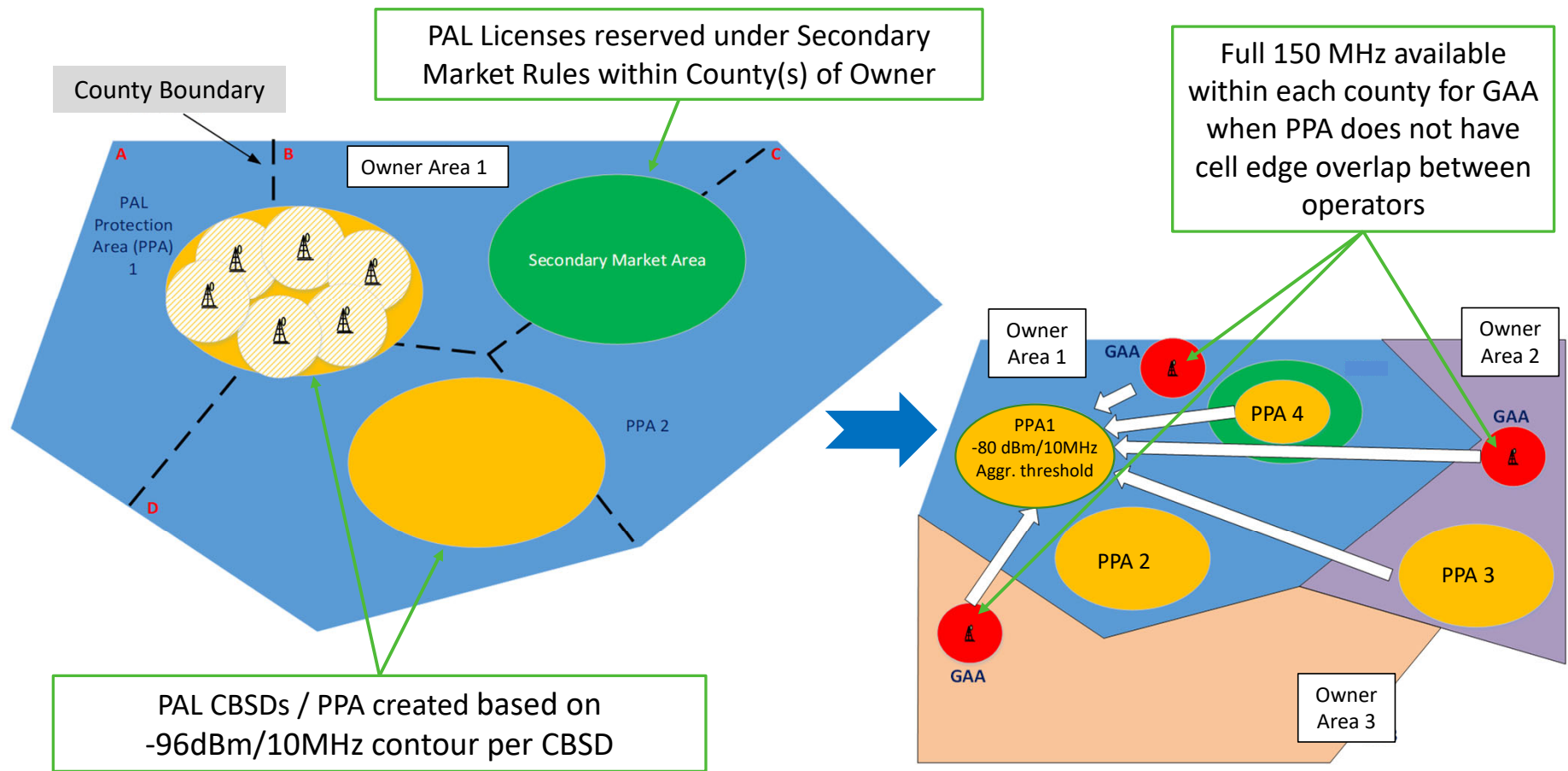
- County
- PAL License Id
- Name of Lessor
- Name of Lessee
- Area for lessee's license



PAL Protection Process



PAL Protection Area (PPA)



The background of the slide is a vibrant rainbow gradient, transitioning from purple on the left to red, orange, yellow, green, and blue on the right. Overlaid on this gradient is a complex network of white lines connecting various nodes. The nodes are represented by small, glowing circles in colors that match the background gradient. The network structure is dense and interconnected, suggesting a global or multi-organizational network.

Thank You