



Resilient Notifications

Via NextGen TV



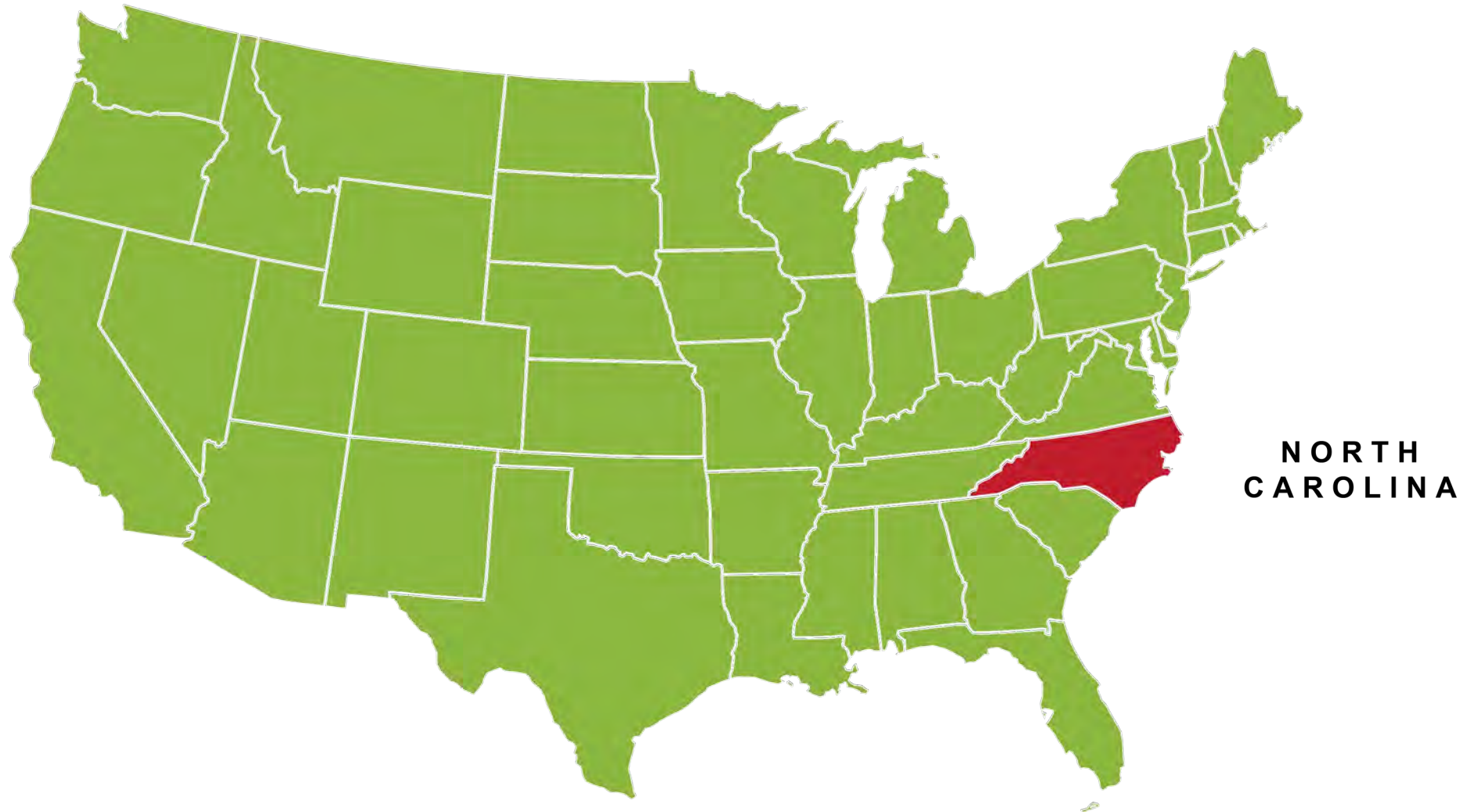
NEXTGEN TV //

Project Partners



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Our Location



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PBS North Carolina Programming Channels



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Educational Video



NEXTGEN TV //

ATSC 1.0 to ATSC 3.0 Explainer Slides



ATSC 3.0

nextgentv

Larger Capacity
Higher Efficiency

Emergency
Communications
Channels,
Educational
Services
and more

DATA

rootle

(SD)

N
NORTH CAROLINA
CHANNEL
(HD)
(SD)

Explorer
CHANNEL
(HD)
(SD)

10¹³
Mbs/Sec

ATSC 3.0
nextgenTV

25
Mbs/Sec

DATA

What is Datacasting?

- Unused bandwidth for other needs
- Sending one-way data using the existing TV transmission
- Data can include text, video, audio, files, etc.



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Public Television Perception



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Public Television Perception

Public media organizations
have always been focused on
ENRICHING lives.



Now they will also help
SAVE lives.

Current Kitchen Fire Dispatch

- 🔊 5 tones to 9 units – 26 seconds
- 🔊 Voice announcement *only after* all pager tones
- 🔊 11 seconds to read unit numbers
- 🔊 Location announced 42 seconds after alert initiated
- 🔊 Full alert = ~67 seconds



4034



4024



4125



4114



3735



3720



4027



4002



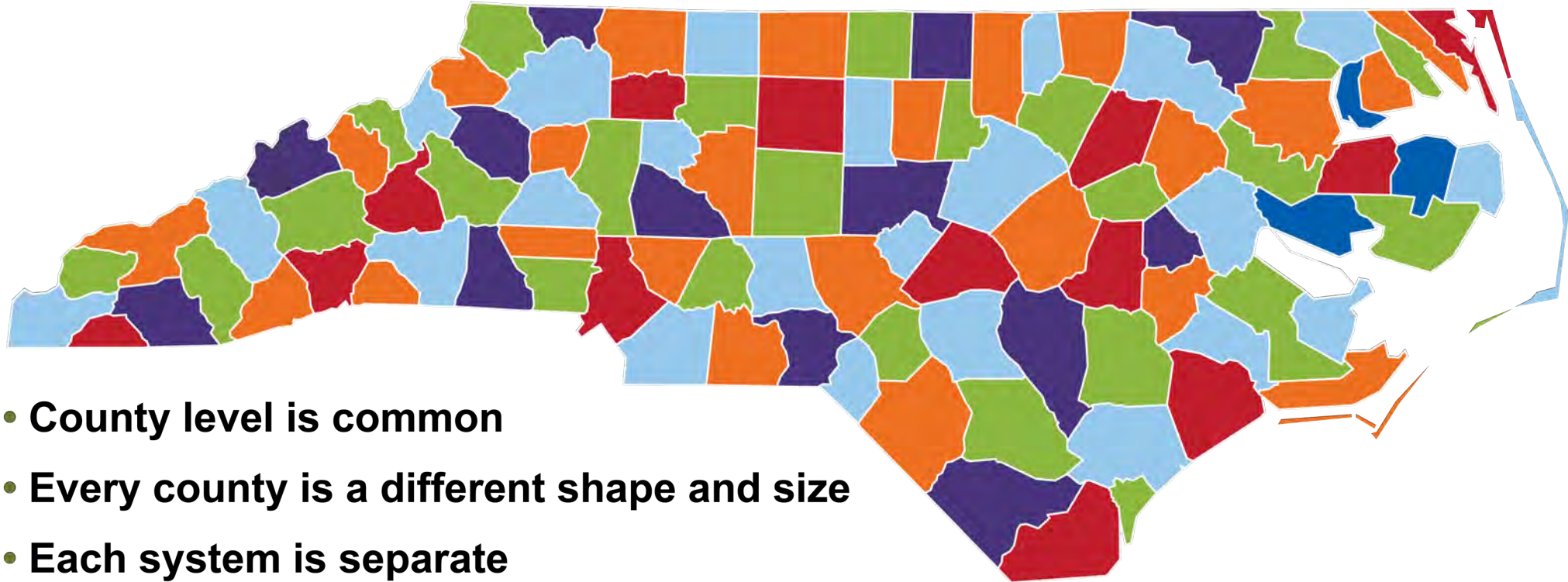
4102

Tone Alerting and Analog Pagers

- Technology from 50+ years ago
- 70% of firefights are volunteers
- Volunteers might not be located at the fire station
- Tone & Voice Pager
- Extremely reliable & durable
- Most have no display, voice only
- Listen to on-scene radio traffic
- ISO concerns



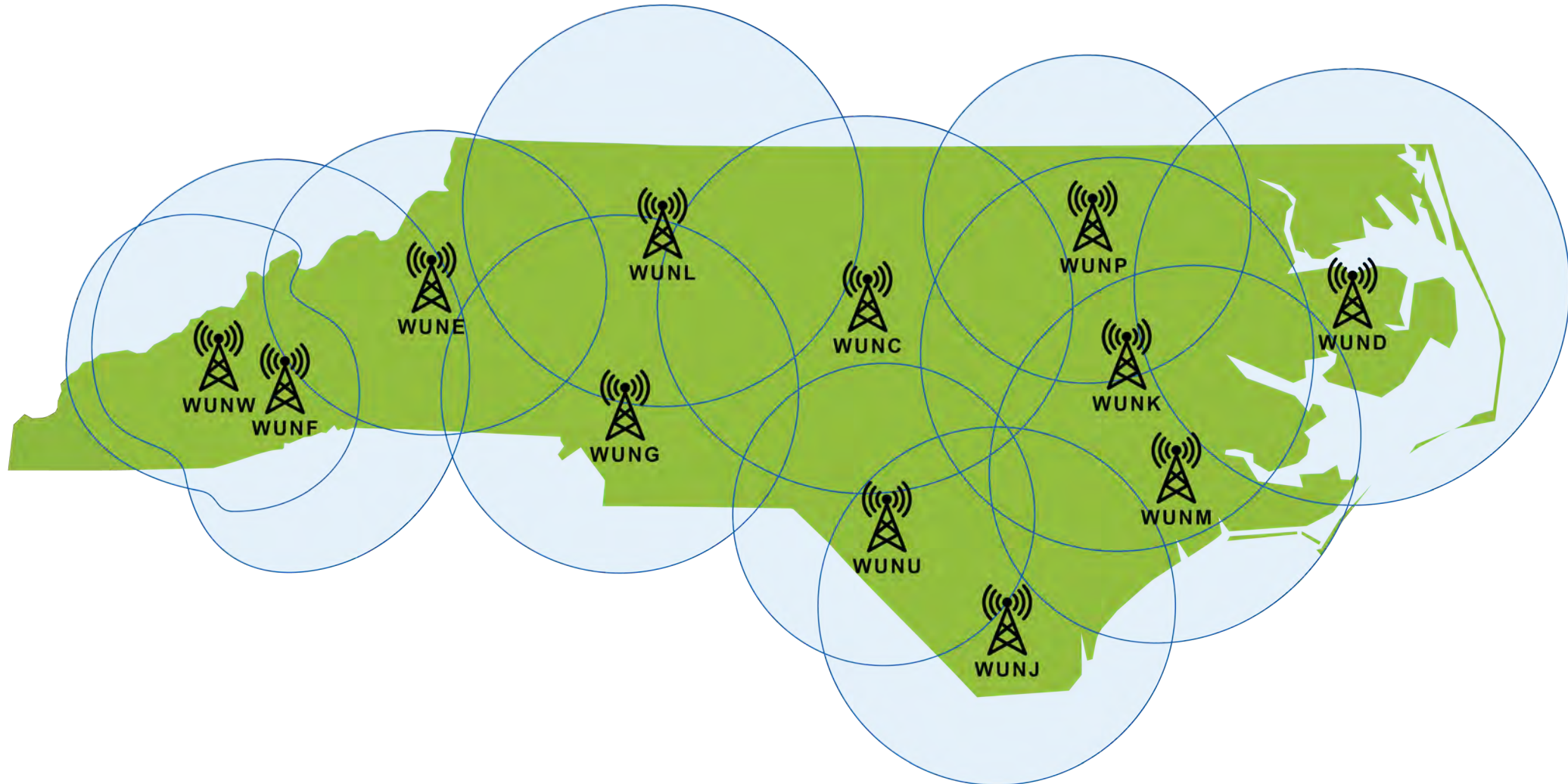
Coverage Designed for the Response Area



- **County level is common**
- **Every county is a different shape and size**
- **Each system is separate**

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PBS North Carolina Transmission Coverage



Datacast Paging Benefits

- High Tower & High Power
- Infrastructure already exists
- Instantaneous
- Encrypted
- Scalable bandwidth
- Simultaneous dispatches
- Maps, preplans, ICS forms, audio, video
- Device is always aware of coverage



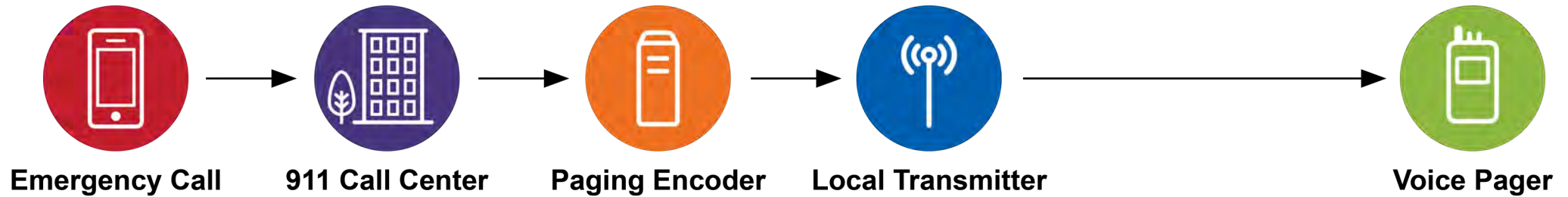
ATSC 3.0 Kitchen Fire Dispatch

- 🔊 Full alert ≈ 5-10 seconds
- 🔊 All information delivered as text
- 🔊 On-board text-to-speech

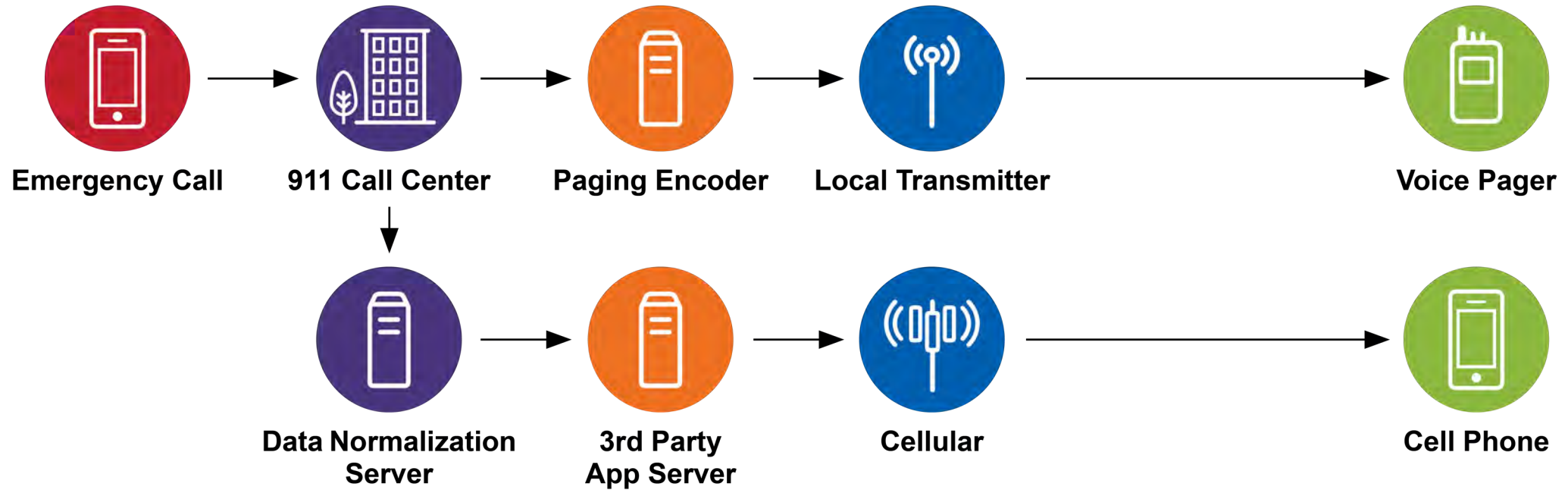


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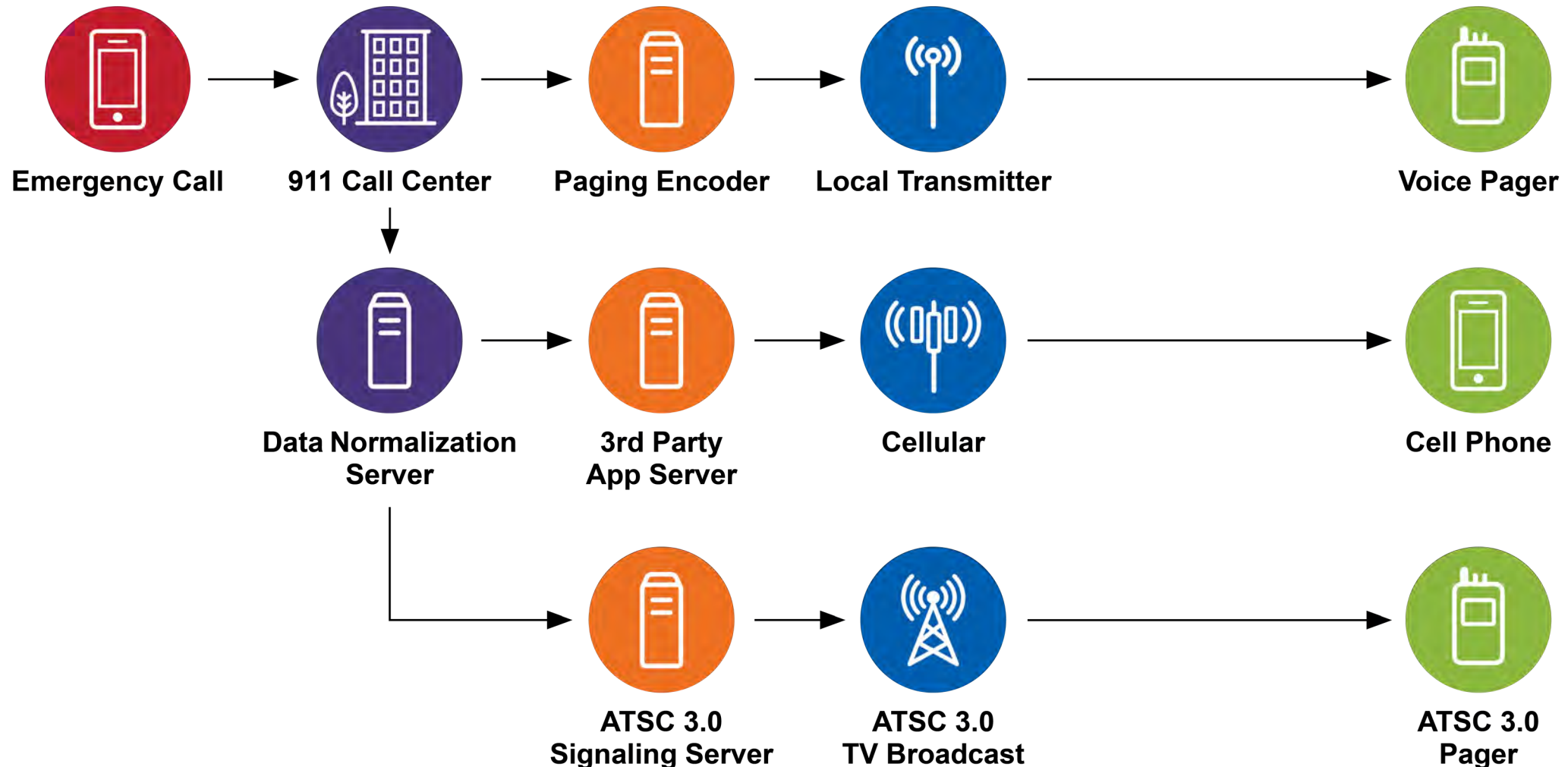
Existing Emergency Paging Ecosystem



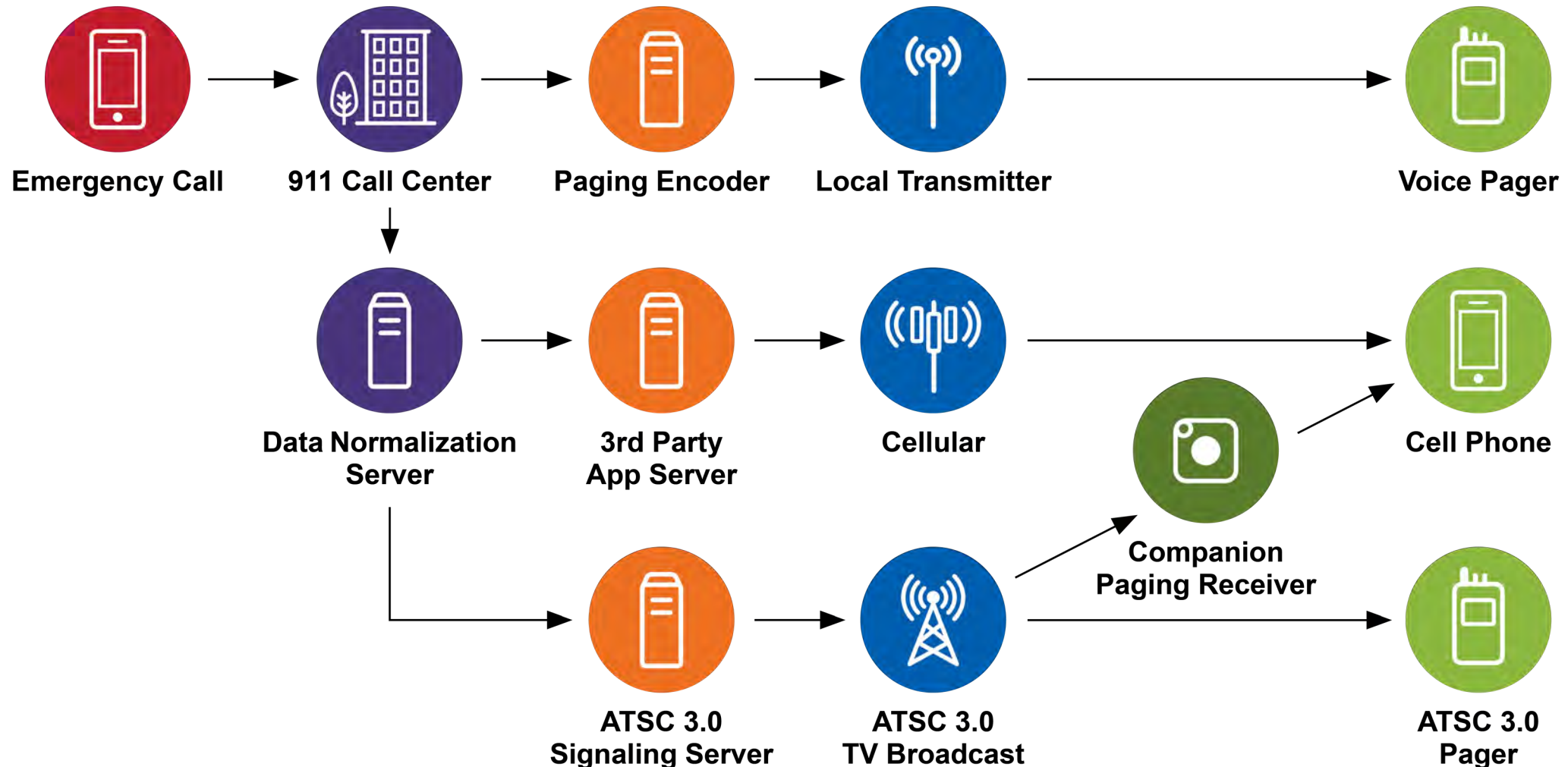
Existing Emergency Paging + Cellular



ATSC 3.0 Standalone Paging Ecosystem



ATSC 3.0 Companion Device Paging Ecosystem



ATSC 3.0 Pager Prototype

- DHS funded a prototype pager
- PBS North Carolina worked with Device Solutions
- Real call information was routed from the PSAP to responders



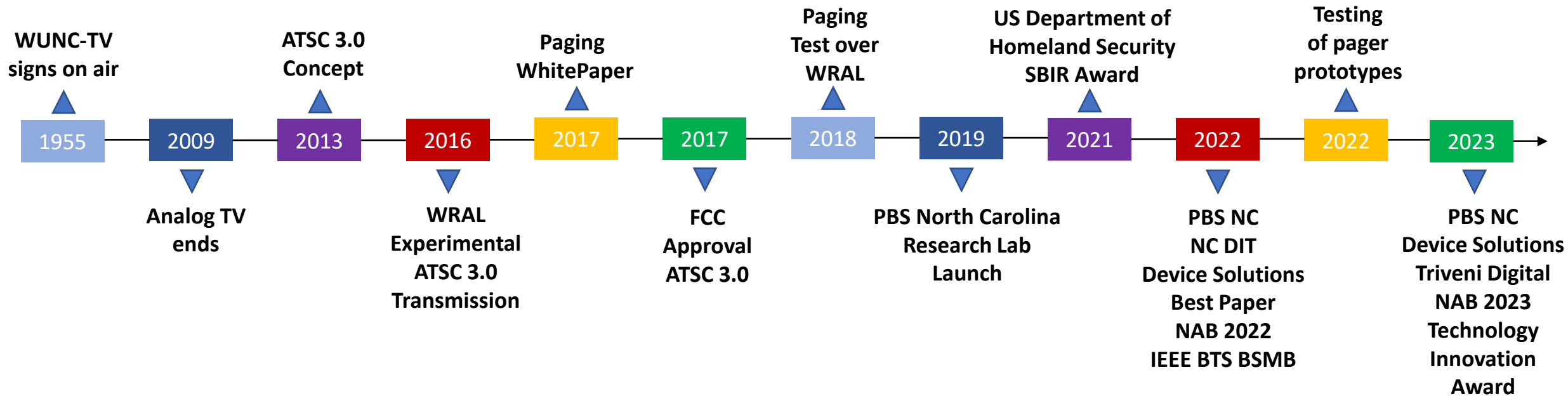
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Digital Paging Update



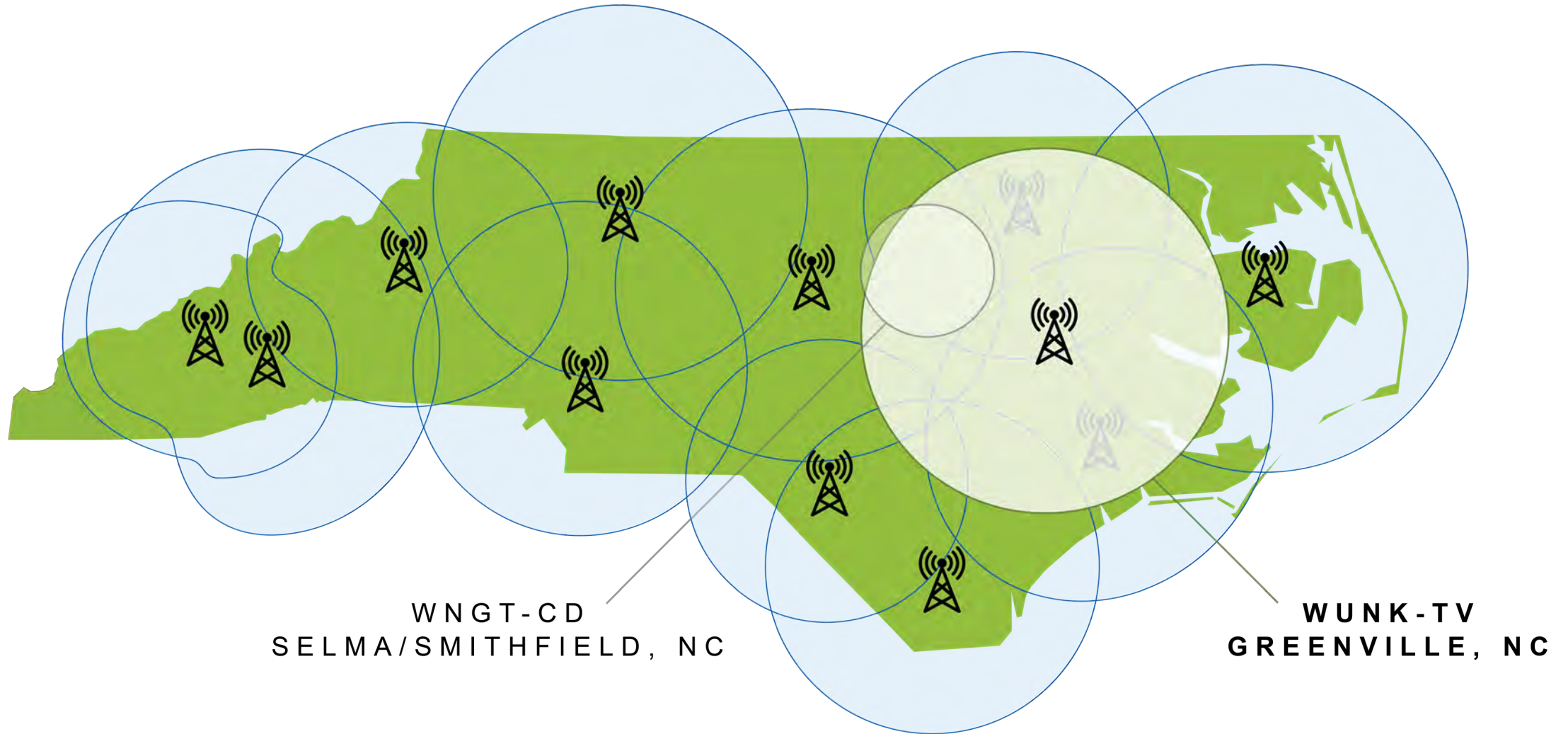
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PBS North Carolina Public Safety Timeline



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WUNK-TV NEXTGEN TV Coverage Area



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PBS North Carolina NEXTGEN TV Facilities



**WUNC-TV
CHAPEL HILL, NC**

Hosted by Capitol Broadcasting Company



**NEXTGEN TV
RESEARCH LAB**



**WUNK-TV
GREENVILLE, NC**

Digital Paging Over Public Television

Q&A

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