
Next Generation 911

FCC Mandates & Indoor Mapping

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- Overview of the recent FCC Report & Order
- Indoor Mapping pilot project overview
 - Kansas
 - Illinois
- Questions for the presenters

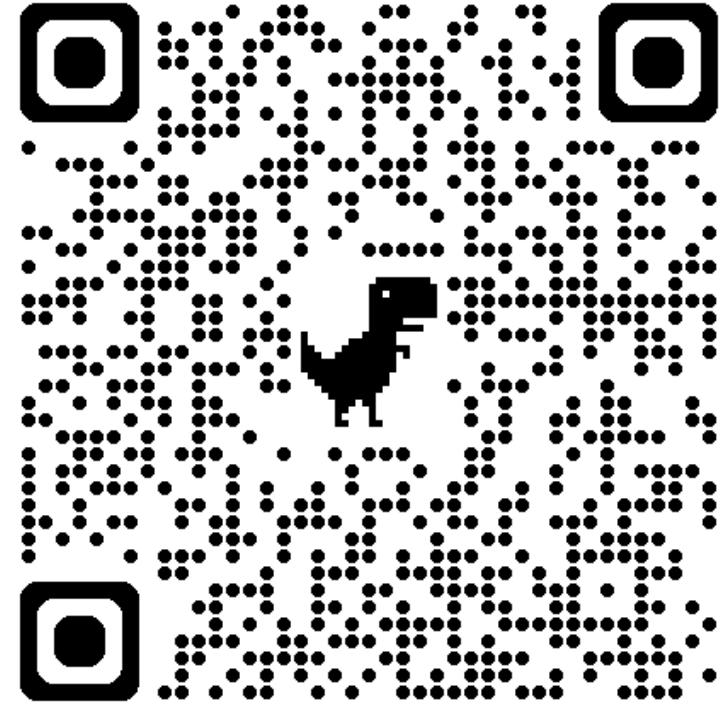
- It wouldn't be a PowerPoint without a Mentimeter and a dad joke
- Scan QR code or go to www.menti.com and enter 4863 1512



- What we will cover today
 - The FCC Report & Order and its impact on NG9-1-1
 - What it means for GIS professionals
 - How it intersects with indoor mapping

Federal Communications Commission		FCC 24-78
Before the Federal Communications Commission Washington, D.C. 20554		
In the Matter of)	
Facilitating Implementation of Next Generation 911 Services (NG911)	)	PS Docket No. 21-479
Location-Based Routing for Wireless 911 Calls	)	PS Docket No. 18-64
REPORT AND ORDER		
Adopted: July 18, 2024		Released: July 19, 2024
By the Commission: Chairwoman Rosenworcel and Commissioner Starks issuing separate statements.		
TABLE OF CONTENTS		
Heading		Paragraph #
I. INTRODUCTION	.....	1
II. BACKGROUND	.....	8
A. 911 Implementation	.....	9
B. Transition to Next Generation 911	.....	14
1. Legal and Policy Landscape	.....	14
2. Standards Work and Federal Advisory Committee Reports	.....	17
C. Recent Regulatory Changes	.....	21
III. DISCUSSION	.....	26
A. The Need for Rules to Facilitate the NG911 Transition	.....	27
B. Definitions of Key Terms	.....	33
C. Service Providers' Obligation to Deliver 911 Traffic in IP Format Upon Request	.....	59
1. Two-Phased Implementation of IP-Based Transmission Formats	.....	59
a. Overview	.....	59
b. Phase 1	.....	71
(i) Requirement	.....	71
(ii) Definitions	.....	76
c. Phase 2	.....	78
(i) Requirement	.....	78
(ii) Definitions	.....	86
d. Modification of Phase Requirements by Mutual Agreement	.....	87
e. Internet-Based TRS Providers	.....	89
2. Valid Requests for Delivery of 911 Traffic in IP-Based Transmission Formats	.....	91
a. Phase 1 Valid Requests	.....	93
b. Phase 2 Valid Requests	.....	95
c. Other Readiness Considerations	.....	98
d. Authorized Requesting Entities	.....	103
e. Notification Mechanism for Valid Requests	.....	106
f. OSP Petitions Challenging Validity of 911 Authority Requests	.....	111
3. OSP Implementation Timeframes	.....	113

- FCC Report and Order 24-78 “Facilitating Implementation of Next Generation 911 Services (NG911)” was adopted on July 18, 2024
- It is one of the most impactful FCC actions for NG9-1-1 adoption *ever*
- It will allow a 9-1-1 Authority, for the first time ever, to compel Originating Service Providers to deliver NG9-1-1 IP-native calls to established demarcation points...
- ...and to finally decommission legacy E9-1-1



- FCC-24-78 defines two NG9-1-1 implementation phases – and their distinction is very important, especially to GIS professionals that support 9-1-1 Authorities
- Phase One
 - “delivery of 911 traffic in IP-based Session Initiation Protocol (SIP) format to one or more in-state NG9-1-1 Delivery Points designated by the 911 Authority”
- Phase Two
 - "delivery of 911 traffic... in an IP-based SIP format that complies with NG9-1-1 commonly accepted standards" including PIDF-LO
 - "Phase 2 will facilitate the full use of the functional elements of NGCS, including LVF"
- At each phase, 9-1-1 Authorities must be ready before sending letters of notice to their Originating Service Providers
- But what does “ready” mean?
 - This is being defined today. More to come...

Providers	Compliance Timeframe	
	Phase 1 ³⁵¹	Phase 2 ³⁵²
Non-rural Wireline Providers	6	6
RLECs	12	12
CMRS Providers (Nationwide)	6	6
CMRS Providers (Non-nationwide)	12	12
Covered Text Providers	6	6
Interconnected VoIP Providers	6	6
Internet-based TRS Providers	12	12

What This Means for GIS Professionals

- Your data will, very soon, be used to directly validate NG9-1-1 civic locations
- If you're unfamiliar with NG9-1-1 standards, now is a good time to start brushing up on them
- At the onset, before Phase One
 - Start evaluating GIS data completeness now – this includes CLDXF!
 - Make sure GIS/ALI/MSAG synchronization is 98% or better
- Then, before Phase Two
 - Prepare for a *lot* of data remediation work; this will be the first time your data will participate in NG9-1-1 LVF validation
 - Determine if subaddress elements will be validated on Day One
 - If not, figure out when; hint: this will be one fine kettle of fish
 - If you can, beforehand, run comparisons between OSP databases and your GIS data to get ahead of problems as early as possible



FCC-24-78 and Indoor Maps

- When you start validating subaddresses, the LVF will need that data
- But there isn't a lot of indoor GIS data ready for NG9-1-1 today
- Indoor maps, if built right, can conveniently provide that data
- School safety initiatives require mapping K-12 schools in many states; that is a start
- If indoor maps for schools are the beginning, what's next?
- Even if validating subaddresses is years away, start planning *now*



Purpose - Assess how existing Indoor Mapping offerings fit in with both the Kansas NG911 call handling application set and the state GIS program

Better understand the data options and also better understand our needs

A little bit about the Kansas NG911 GIS program



- Statewide Hosted Solution
 - Motorola Vesta and RapidDeploy Radius and Lightning
- PSAP GIS Data Maintainers are required to submit data quarterly
 - Kansas NG911 GIS Data Model
 - Indoor Mapping not currently included
- DASC validates, aggregates and hosts all statewide NG911 data and imagery services

- 3 Vendors
- Asked vendors to map the same 2 story elementary school in Kansas
 - Local school district provided DWG and JPG files
 - Onsite school visit not required, but all three vendors did end up visiting the school
 - Include points of interest developed with school input
 - Panic button locations
 - Camera locations
 - Key card lock locations
 - AED
 - etc
 - Deliver standard product plus any additional data if part of this collection

- Evaluate each vendor's standard indoor data delivery
- Evaluate using the indoor mapping data as part of our 911 program both in and out of ArcGIS Indoors
- Evaluate using ArcGIS Indoors
- Work with RapidDeploy on integration
- NENA Indoor Data Model
- Plan to create a Kansas NG911 Indoor Mapping Guidance Document for Kansas PSAPs

Results so far ...

- Data delivered in various formats, some ArcGIS Indoors ready and some not
- Needs of NG911 indoor data today is very simple – ability to translate a coordinate to more exact location in a building
 - For example, sub address polygons ideally with elevation data
- No current NG911 use for complex indoor data
- Implementation – elevation data is coming but how will it be used
- What does it look like to aggregate this data? Is there an added value
- Intent is to evaluate use of indoor mapping data for use in the Kansas NG911 program

Legislation

- Drafted and passed but NOT APPROPRIATED/FUNDED
- Requires “Subject to appropriation” Board of Education to fund indoor mapping

Every School in IL must have an architect of record for schematics and safety plans

Note: Conversations with the State Board of Education indicate they are on board with a Standards based product & Geospatial mapping

Funding

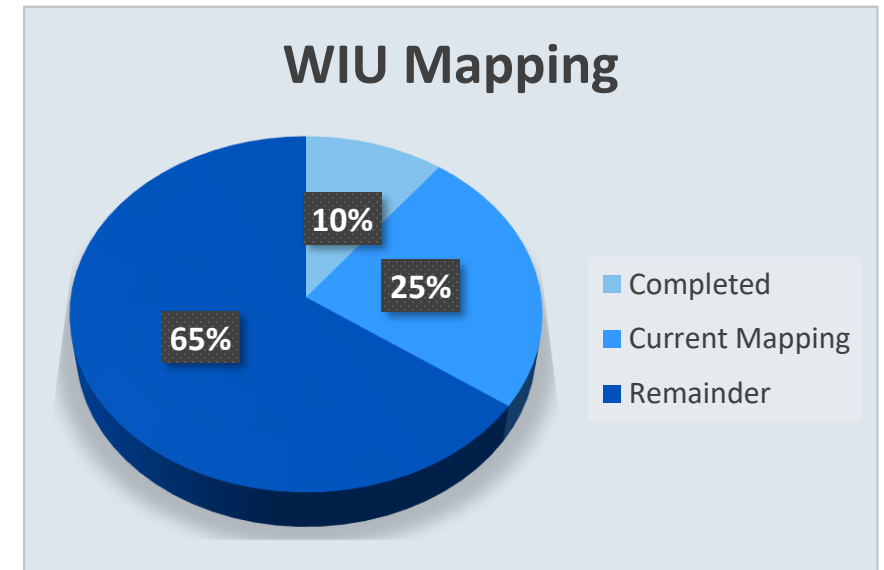
- 5M of 12M available through Nextgen 911 grant process was funded for indoor school mapping – Last priority in grant!

Standards exploration

- Illinois compared data models
- 911 grant recommends the ESRI data model
 - All companies we checked could support ESRI's model
 - WIU
 - GeoComm
 - ESRI
 - Etc

Status

- WIU GIS Center Mapping
 - 60(ish) schools completed with 141 more coming from the current grant cycle (314 total in WIU funded area)
- DuComm (Suburban Chicago area) – exploring a pilot
- 911 Grants (Geocomm, Datamark, Cloudpoint, WIU, WhereTechnologyHappens, etc)



- What are the key challenges related to implementing and managing an indoor mapping program?
- Describe the need for developing and implementing indoor mapping standards. What are the challenges related to developing standards for such a rapid evolving technology?
- What are the data privacy and security concerns related to the development and utilization of indoor mapping data, specifically with regard to schools?
- Please elaborate on the intersection of indoor mapping and the recent FCC R&O.
- Please discuss the challenges of eventual subaddress validation.

Thank you!

Questions?