

ILLINOIS STATE POLICE
Office of the Statewide 9-1-1 Administrator



State of Illinois

Application for
9-1-1 Modification Plan

VERIFICATION

I, Steven J. Winnecke, first being duly sworn upon oath, depose and say that I am Executive Director, of Lake County ETSB; that I have read the foregoing plan by me subscribed and know the contents thereof; that said contents are true in substance and in fact, except as to those matters stated upon information and belief, and as to those, I believe same to be true.

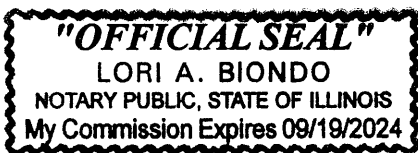
Steven J. Winnecke

Steven J. Winnecke

Subscribed and sworn to before me

this 27 day of July, 20 22.

Lori A. Biondo
NOTARY PUBLIC, ILLINOIS



9-1-1 SYSTEM PROVIDER LETTER OF INTENT

07/27/2022

(Date)

Lisa Wirtanen

(9-1-1 System Provider Company Representative)

AT&T

(9-1-1 System Provider Company Name)

4918 W 95th St

(Street Address)

Oak Lawn, IL 60453

(City, State, Zip Code)

Dear Lisa Wirtanen _____:

This letter is to confirm our intent to modify our 9-1-1 System. Enclosed is your copy of our modification plan to be filed with the Department of the Illinois State Police for approval. Thank you for your assistance in this matter.

Sincerely,

Steve Winnicke

Executive Director

Lake County ETSB

(Name)

(Title)

enclosure: Modification Plan

NARRATIVE STATEMENT:

(Provide a detailed summary of system operations for a modified 9-1-1 plan. Also, if incorporating an NG9-1-1 solution, please include the additional items listed below pursuant to 1325.205 b)12).

- 1) Indicate the name of the certified 9-1-1 system provider being utilized.
- 2) Explain the national standards, protocols and/or operating measures that will be followed.
- 3) Explain what measures have been taken to create a robust, reliable and diverse/redundant network and whether other 9-1-1 Authorities will be sharing the equipment.
- 4) Explain how the existing 9-1-1 traditional legacy wireline, wireless and VoIP network, along with the databases, will interface and/or be transitioned into the NG9-1-1 system.
- 5) Explain how split exchanges will be handled.
- 6) Explain how the databases will be maintained and how address errors will be corrected and updated on a continuing basis.
- 7) Explain who will be responsible for updating and maintaining the data, at a minimum on a daily basis Monday through Friday.
- 8) Explain what security measures will be placed on the IP 9-1-1 network and equipment to safeguard it from malicious attacks or threats to the system operation and what level of confidentiality will be placed on the system in order to keep unauthorized individuals from accessing it.

Plan Narrative:

The Lake County E9-1-1 9-1-1 System is transitioning from E9-1-1 to Next Generation 9-1-1 (NG911). AT&T is the 9-1-1 System Provider ("SSP").

The Lake County E9-1-1 9-1-1 System will comply with all Federal and State laws and with National Emergency Number Association Standards (NENA) that pertain to NG911 including the NENA i3 Standard for Next Generation - NENA-STA-010.3a-2021.

The State of Illinois has selected AT&T to provide a statewide Next Generation 9-1-1 System. AT&T's ESInet combines AT&T's network capabilities with technology from Intrado Life & Safety, Inc. (Intrado). The AT&T ESInet solution will facilitate an efficient transition from legacy 9-1-1 networks to networks capable of supporting the growing demands of a mobile society. With AT&T ESInet, the State is taking advantage of AT&T's investment in a pre-built, cloud-based solution that delivers next-generation functionality. AT&T is also providing their industry-leading AT&T VPN MPLS network for primary access to all PSAPs.

AT&T's ESInet solution is a combination of their IP network and Next Gen Core Services (NGCS) components that includes industry leading SLAs, management services and tools to help ensure that they provide the best possible service.

The design is based on building redundant systems to avoid any single point of failure (SPOF) in the ESInet and the overall NG9-1-1 Network Architecture. The NG9-1-1 system will provide flexibility in the routing of calls. The ESInet being deployed has all PSAPs connected and can route calls based on not only location, but also by availability. In a Next Generation solution, a call will be answered through intelligent routing. Additionally, there will be more available positions to answer calls because all connected and tested PSAPs will be technically able to answer the call and will be able to dispatch or transfer the call to another PSAP.

AT&T's ESInet defense-in-depth security is built into the architecture. AT&T's Global IP network is monitored by 8 different Security Operations Center (SOC) facilities located across the world. AT&T uses its security portfolio capabilities to protect their data centers and networks.

AT&T's ESInet provides six (6) geographically diverse and fully redundant facilities to increase resiliency and survivability in natural and man-made disaster scenarios, with scalable capacity capable of supporting more than twice the 9-1-1 busy hour call for the entire United States. AT&T has documented business continuity and restoration plans, including complex disaster and evacuation contingencies. The 24x7 operations center employs an Incident Handling process modeled on FEMA's Incident Command System, with notifications built into the process.

Plan Narrative:

The ESInet is monitored 24x7x365 from a NOC with tier 2 and tier 3 technical resources dedicated to the AT&T ESInet. AT&T's 9-1-1 Resolution Center has dedicated public safety resources.

The AT&T ESInet provides a flexible routing platform that supports both ESN (tabular) and GIS (spatial) routing on the same Emergency Call Routing Function (ECRF).

The AT&T ESInet solution will interconnect to legacy selective routers as defined per NENA standards. AT&T provides redundant, public safety grade points of presence in each LATA for OSP ingress locations for Legacy Network Gateways (LNGs).

AT&T will interconnect to Legacy Selective Routers to transfer and/or receive calls with Automatic Number Identification (ANI) and Automatic Location Identification (ALI) information to the State's NGCS via legacy means through the Legacy Selective Router Gateway (LSRG). Interconnections will also allow legacy PSAPs served by legacy selective routers to serve as the abandonment route for PSAPs served by the AT&T ESInet solution.

Connectivity extends beyond the internal ESInet transport to external network and OSP interfaces. The ESInet supports both TDM and IP OSP ingress at geographically distributed Points of Interconnection (POI's). The ESInet supports standards-based protocol interfaces to external ESInets for call hand-off and call transfers. With pre-established connectivity capabilities, PSAPs on the ESInet have the ability to transfer calls to PSAPs on other ESInets or PSAPs that have not yet transitioned off legacy selective routers.

AT&T will coordinate getting the OSPs records into the AT&T ESInet database. AT&T will also jointly plan the interconnecting network with the OSP. Circuits will be ordered and implemented between the OSP and the ESInet POI. The ESInet POI may reside in an AT&T office or hub. AT&T will cooperatively test and turn up all trunking arrangements with the OSP. Traffic migrations from the legacy to new AT&T infrastructure will follow.

Integrated Text-to-911 is supported by the ESInet.

AT&T is responsible for negotiating interconnection agreements and trunking arrangements with each service provider. Interconnection agreements will include the roles and responsibilities of the Parties related to the exchange of 9-1-1 traffic including but not limited to, split rate centers, tandem to tandem and IP connections.

GIS data is submitted to the AT&T ESInet via a web-based spatial interface (SI) portal. The portal provides secure GIS file transfer. 9-1-1 Authorities can maintain their local database schema and configure database changes using attribute field mapping tools.

The Spatial Interface (SI) validation engine logs errors and refers errors back to the originating 9-1-1 Authority in comprehensive reports that are retrieved in the 9-1-1 Enterprise Geospatial Database Management System (9-1-1EGDMS). Validation errors are corrected by the 9-1-1 Authority within their own GIS database. Updates are submitted and processed on an on-going basis.

AT&T's ESInet cyber security policies, standards, and guidelines are consistent with industry best practices as defined by International Organization for Standardization and Control Objectives for Information and related Technology. The AT&T ESInet is a highly secure, privately managed IP network providing IP based call routing services for next generation 9-1-1 call delivery. All inbound and outbound traffic interactions are with pre-authorized entities, utilize agreed upon protocols and traverse controlled access points. Call processing and real-time data delivery are protected through both physical and logical controls.

Sensitive data resides in trusted data centers that employ logical and physical access controls. All hardware and software elements deployed in a production environment go through stringent release management processes that incorporate thorough penetration scan testing. Corporate and development environments are separate from production and are not used in development or system test environments. Inter-zone traffic is restricted to only that of authorized personnel and the necessary protocols destinations used to support the management and applications of the ESInet with all other traffic implicitly denied by way of redundant and diverse Session Border Controllers (SBC) and stateful firewalls.

A Network Operations Center (NOC) staffed 24 hours a day, seven days a week, 365 days a year to actively monitor and manage the AT&T ESInet end-to-end service is provided. When a potential or actual Customer-affecting issue is detected, the Incident Administration team is engaged by the NOC. The team uses established processes that are ISO 9001:2008-compliant for immediate escalation, notification, resolution, and reporting. All buildings, NOC and Data Center access are monitored by 24x7 security and access control systems.

Lake County E9-1-1 will be maintaining the current backup configurations as follows. Lake Zurich is backed up by Lake County Sheriff's Office and Lake County Sheriff's Office is backed up by Lake Zurich.

Lake County E9-1-1 will be accepting redundant routing of 9-1-1 calls with primary delivery to primary call handling equipment for the 9-1-1 system with alternate routing to the secondary call handling equipment. In the event of isolation or failure of a remote PSAP from the main cores, 9-1-1 calls will route to survivability controllers installed locally at the PSAP.

Text - Lake County ETSB's TCC is InDigital through the Solacom 9-1-1 System. Public education will be via web and through Lake County Communications.

FINANCIAL INFORMATION

Annual recurring 9-1-1 network costs
prior to modification

\$ N/A

Projected annual
recurring 9-1-1 network costs after
modification

\$ TBD

Installation cost of the project

\$ TBD

Anticipated annual revenues

\$ N/A

FIVE YEAR STRATEGIC PLAN FOR MODIFIED PLAN

(Provide a detailed summary of the proposed system's operation, including but not limited to, a five-year strategic plan for implementation of the modified 9-1-1 plan with financial projections)

Narrative:

COMMUNITIES SERVED

Provide a list of all communities to be served by the proposed 9-1-1 System. Please include the name of the community and the official mailing address including street address, city and zip code.

USE ADDITIONAL SHEETS AS NECESSARY

City, Town or Village	Street Address, City, Zip Code
Village of Antioch	874 Main St. Antioch 60002
Village of Beach Park	11270 W Wadsworth Rd. Beach Park 60099
Village of Deer Park	23680 W Cuba Rd. Deer Park 60010
Village of Green Oaks	2020 O'Plaine Rd. Green Oaks 60048
Village of Hawthorn Woods	2 Lagoon Dr. Hawthorn Woods 60047
Village of Indian Creek	31 Circle Dr. Indian Creek 60061
Village of Island Lake	3720 Greenleaf Ave. Island Lake 60042
Village of Kildeer	21911 Quentin Rd. Kildeer 60047
Village of Lake Barrington	23860 N Old Barrington Rd. Barrington 60010
Village of Lake Villa	65 Cedar Ave. PO Box 519 Lake Villa 60046
Village of Lake Zurich	70 E Main St. Lake Zurich 60047
Village of Lakemoor	28581 IL Route 120 Lakemoor 60051
Village of Lindenhurst	2301 E Sand Lake Rd. Lindenhurst 60046
Village of Long Grove	3110 Old McHenry Rd. Long Grove 60047
Village of Mettawa	26225 N Riverwoods Blvd. Box M Mettawa 60045
Village of North Barrington	111 Old Barrington Rd. North Barrington 60010
Village of Old Mill Creek	40870 Hunt Club Rd. Old Mill Creek 60083
Village of Port Barrington	69 S Circle Ave. Port Barrington 60010
City of Park City	3355 Belvidere Rd. Park City 60085
Village of Third Lake	87 N Lake Ave. Lake Villa 60046
Village of Tower Lakes	400 N IL Route 59 Tower Lakes 60010
Village of Wadsworth	14155 W Wadsworth Rd. Wadsworth 60083
Village of Volo	500 S Fish Lake Rd. Volo 60050
Village of Wauconda	101 N Main St. Wauconda 60084

PARTICIPATING AGENCIES

Provide a list of public safety agencies (Police, Fire, EMS etc.) that are to be dispatched by the 9-1-1 System. Each Agencies land area(s) in square miles and estimated population which will have access to the proposed 9-1-1 System. Do not forget to include County Sheriff's jurisdiction and Illinois State Police Districts. Each agency that appears on this list should also have signed a call handling agreement.

9-1-1 Participant Agencies	Street Address, City, Zip Code	Administrative Telephone No.	Direct Dispatch	Transfer	Call Relay
Antioch First Fire Protection Di	835 Holbek Dr. Antioch, IL 60002	(847) 395-5511		x	
Antioch Police	433 Orchard St. Antioch, IL 60002	(847) 395-8585		x	
Barrington Countryside Fire Pr	22222 N Pepper Rd. Barrington, IL 60010	(224) 848-4800		x	
Beach Park Fire	3233 N Lewis Ave, Beach Park, IL 60087	(847) 662-2642		x	
Countryside Fire Protection Dis	600 Deerpath Dr, Vernon Hills, IL 60061	(847) 367-5511		x	
Fox Lake Fire Protection Distri	306 Washington St, Fox Lake, IL 60020	(847) 587-3312		x	
Grayslake Fire Protection Distri	160 Hawley St, Grayslake, IL 60030	(847) 223-8960		x	
Greater Round Lake Fire Prote	409 W Nippersink Rd, Round Lake, IL 60073	(847) 546-6001		x	
Gurnee Fire Protection District	4580 Old Grand Ave, Gurnee, IL 60031	(847) 599-6600		x	
Hawthorn Woods Police	2 Lagoon Dr, Hawthorn Woods, IL 60047	(847) 438-5500	x		
Island Lake Police	3720 Greenleaf Ave, Island Lake, IL 60042	(847) 526-8764	x		
Lake County Sheriff	25 S Martin Luther King Jr. Ave, Waukegan,	(847) 549-5200	x		
Lake Villa Fire Protection Distri	1911 Grass Lake Rd, Lindenhurst, IL 60046	(847) 245-8730		x	
Lake Villa Police	65 Cedar Ave, Lake Villa, IL 60046	(847) 356-6106		x	
Lake Zurich Fire Protection Dis	321 S Buesching Rd, Lake Zurich, IL 60047	(847) 540-5070	x		
Lindenhurst Police	2300 E Grand Ave, Lindenhurst, IL 60046	(847) 356-5400		x	
Long Grove Fire Protection Dis	1165 Old McHenry Rd, Long Grove, IL 6004	(847) 634-3143		x	
Newport Township Fire Protect	39010 Caroline Ave, Wadsworth, IL 60083	(847) 526-2421		x	
Park City Police	3420 Kehm Blvd, Park City, IL 60085	(847) 662-2135		x	
Riverwoods Police Department	845 Saunders Rd. Riverwoods, IL 60015	(847) 945-1130		x	
Tower Lakes Police	400 N IL Route 59. Tower Lakes, IL 60010	(847) 526-3800	x		
Wauconda Fire Protection Dist	109 W Liberty St, Wauconda, IL 60084	(847) 526-2821	x		
Wauconda Police	311 S Main St, Wauconda, IL 60084	(847) 526-2421	x		

ADJACENT AGENCIES LIST

Provide a list of public safety agencies and existing 9-1-1 Systems that are adjacent to the proposed system's boundaries. Each agency that appears on this list should also have signed a call handling agreement and/or aid outside jurisdictional boundaries.

AGENCY	STREET ADDRESS, CITY, ZIP CODE	TELEPHONE NUMBER
Bannockburn Police Department	2275 Telegraph Rd, Bannockburn, IL 60015	(847) 945-8490
Barrington Police Department	400 N. Northwest Hwy, Barrington, IL, 60010	(847) 304-3300
Barrington Hills Police Department	112 Algonquin Rd, Barrington, IL 60010	(847) 551-3006
Cary Police Department	654 Village Hall Dr, Cary, IL 60013	(847) 639-2341
Cook County Sheriff	1401 S. Maybrook Dr, Maywood, IL 60153	(847) 635-1188
Deerfield Police Department	850 Waukegan Rd., Deerfield, IL 60015	(847) 945-8636
Fox Lake Police Department	301 S IL Route 59, Fox Lake, IL 60020	(847) 587-3100
Fox River Grove Police Department	305 Illinois St, Fox River Grove, IL 60021	(847) 639-2411
Grayslake/Hainesville Police Department	33 S. Whitney, Grayslake, IL 60030	(847) 223-2341
Great Lakes Naval Base Police Department	2423 Mac Donough Dr. Great Lakes, IL, 60088	(847) 688-4251
Gurnee Police Department	4587 Grand Ave., Gurnee, IL, 60031	(847) 244-8640
Highland Park Police Department	1677 Old Deerfield Rd., Highland Park, IL, 60035	(847) 688-4251
Highwood Police Department	17 Highwood Ave., Highwood, IL 60040	(847) 432-2152
Illinois State Police District 15	777 S State St., Elgin, IL, 60123	(847) 931-2450
Lake Bluff Police Department	45 E. Center Ave., Lake Bluff, IL, 60044	(847) 234-2153
Lake Villa Police Department	65 Cedar Ave, Lake Villa, IL, 60046	(847) 356-6110
Lake Forest Police Department	255 W. Deerpath Ave., Lake Forest, IL 60045	(847) 615-4255
Libertyville Police Department	200 E. Cook Ave, Libertyville, IL, 60048	(847) 362-8310
Lincolnshire Police Department	1 Olde Half Day Rd, Lincolnshire, IL 60069	(847) 883-8600
Lindenhurst Police Department	2300 Grand Ave., Lindenhurst, IL, 60046	(847) 356-5488
McHenry County Sheriff	2200 N. Seminary Ave., Woodstock, IL, 60098	(815) 338-2144
Mundelein Police Department	221 N Lake St, Mundelein, IL 60060	(847) 968-4600
Northbrook Police Department	1401 N. Landwehr Rd., Northbrook, IL 60062	(847) 546-2060
North Chicago Police Department	1850 Lewis Ave., North Chicago, IL 60064	(847) 596-8700
Riverwoods Police Department	300 Portwine Rd., Riverwoods, IL, 60015	(847) 945-1130
Round Lake Police Department	430 N. Cedar Lake Rd., Round Lake, IL, 60073	(847) 546-8112
Round Lake Beach Police Department	1947 N. Municipal Way, Round Lake Beach, IL, 60073	847-546-2127

ATTACHMENTS

Ordinance - The local ordinance which created an ETSB prior to January 1, 2016.

Contracts - The contract for a new 9-1-1 system provider or for NG 9-1-1 service.

Intergovernmental Agreement

Back-up PSAP Agreement - The agreement that establishes back-up service due to interruptions or overflow services between PSAPs.

Network Diagram - Diagram provided by the 9-1-1 System Provider. Re-evaluate P.01 grade of Service for cost savings and network efficiency.

TEST PLAN DESCRIPTION

1) Description of test plan (back-up, overflow, failure, database).

Attached.

2) List wireline exchanges to be tested.

AT&T

3) List of wireless and VoIP Carriers to be tested.

AT&T Mobility
T-Mobile
Verizon Wireless
Comcast (VOIP)
Vonage (VOIP)
Intrado (VOIP)

Test Plan Description i3

TEST #	TEST CASE	TYPE
1	Trunk Verification (SIP)	Call Routing
2	Trunk Verification (SS7 Ingress from LSR)	Call Routing
3	Trunk Verification (SS7 Egress from AGC to LSR)	Call Routing
4	Perform reboot and validation on each AT&T network edge router at PSAP	Failover test
5	Perform WAN interface shutdown and validation on each AT&T network edge router at PSAP	Failover
6	Perform reboot and validation on each ATT Interface Router (between CPE and AT&T router)	
7	Wireline Call Routed to PSAP through AT&T ESInet	Equipment
8	Wireless Call Routed to PSAP through AT&T Esinet	Equipment
9	VOIP Call Routed to PSAP through AT&T ESInet	Equipment
10	CPE bids i3 Components	Call Handling
11	i3 Routing Fails, Routing via SRDB for Wireline call	Call Routing
12	i3 Routing via ECRF for Wireline call	Call Routing
13	i3 Transfer: Fixed Bridge Conferencing Confirmation (Call to IP PSAP then bridge to i3 PSAP if available – willing PSAP)	Call Handling
14	S/R Transfer: Selective Bridge Conferencing Confirmation, if used by the PSAP	Call Handling
15	S/R Transfer: Fixed Bridge Conferencing Confirmation	Call Handling
16	S/R Transfer: Fixed Bridge Conferencing Confirmation	Call Handling
17	PSTN Transfer: Fixed Bridge Conferencing Confirmation	Call Handling
18	Manual Transfer to valid local TN	Call Handling
19	Manual conference bridging to invalid unassigned number	Call Handling
20	Manual conference bridging to a valid 8YY number	Call Handling
21	Manual conference bridging to a valid Busy number	Call Handling
22	Manual conference bridging to a Multi-Party Conference	Call Handling
23	Manual conference bridging to a valid long-distance cell	Call Handling
24	Alternate Routing	Call Routing
25	Ring no Answer Timer	Call Routing
26	No position Logged In	Call Routing
27	Abandonment Routing	Call Routing
28	Un-Abandonment Routing	Call Routing
29	Abandonment Routing – PAD Testing (if PAD available)	Call Routing
30	Un-Abandonment Routing – PAD Testing (if PAD available)	Call Routing
31	Test line appearances that appear on each CPE	Call Processing
32	TTY call	Call Handling
33	TTY conference call	Call Handling