



Intrado[®] A9-1-1 Shared Services Guide

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1. INTRODUCTION

The terms of this Service Guide (including the Glossary terms in Section 6 below) apply across only the following A9-1-1 Services, and supplement the terms of the Service Guides applicable to such A9-1-1 Services. For purposes of this Service Guide, references to “A9-1-1 Services” or “Services” will be in reference to the following:

- Intrado A9-1-1 Location Data Management
- Intrado A9-1-1 VIPER
- Intrado A9-1-1 Routing
- Intrado A9-1-1 TXT29-1-1 Services
- Intrado A9-1-1 Media Services
- Intrado A9-1-1 Address Intelligence Services
- Intrado A9-1-1 i3 Services

2. FACILITY REQUIREMENTS FOR A9-1-1 HOSTED SERVICES

Customer will allow Intrado to install and maintain equipment at each PSAP location that enables PSAP to connect to Intrado’s A9-1-1 Services.

For Intrado to install and maintain necessary equipment at Customer PSAP locations, Intrado requires the Customer to provide:

- Ability for Intrado personnel or authorized agents to freely access all appropriate areas within each of Customer’s PSAP facilities
- Parking and building access to move tools and equipment in and out of the facilities
- Secured storage for Intrado-supplied equipment shipped to the PSAP in preparation for installation
- Trash and/or recycling removal as needed, including disposal of system packing materials.
- Safe, locked and limited access to equipment room, including adequate security to prevent theft of computer equipment, tools, test sets and employees’ personal effects
- The necessary consent from the landlord, the building owner, the mortgager and/or any other third parties having an interest in the installation site to install the equipment and to assist Intrado in obtaining any other necessary approvals and permits for same.
- Working space, access to computers and other technology, telecommunications equipment and any other services and materials that may be reasonably necessary for Intrado’s performance of the Services at each of Customer’s PSAPs.
- 24 x 7 x 365 access for problem isolation

2.1 Communication Equipment - Equipment Room Requirements

2.2 Requirements

Customer will ensure that each PSAP equipment room where the Intrado-provided communications equipment rack is located meets the following requirements:

- 24"x 87" of floor space for an Intrado-provided cabinet measuring 24"x 39"
- Floor space within 20 feet of the main telecommunications demarcation point
- 24" of space in front and behind the rack
- 36" between the end of the racks and the wall
- The floor must be capable of supporting 104 pounds per square foot
- Dry, clean, and well ventilated
- Well lit, easily accessible and free from excess vibrations
- The equipment rack should be located in an area that does not receive consistent building traffic

Customer will provide power, ground, and environmental controls for the Intrado PSAP equipment to be installed in the equipment room at each of Customer's PSAPs as follows:

- Two dedicated 110volt /20 AMP power feeds are required with A & B feed (separate power source) and receptacle plug type NEMA L5 20P twist lock
- Any metallic component that is part of the PSAP infrastructure (such as equipment, racks, ladder racks, enclosures, cable trays, etc.) must be bonded to the grounding system.
- The facility will have adequate HVAC controls, monitoring and redundancy in order to maintain:
 - Cooling for maximum heat output under full load is 4,000 BTU/hour
 - Data Center HVAC systems must maintain a constant dry bulb temperature between 68 and 77 degrees Fahrenheit
 - Relative humidity between 40% and 55%
- Surge/Lightning Protection

2.3 Ownership

Intrado will retain ownership of all Intrado-provided equipment; Customer is responsible for damage to such equipment caused by Customer, reasonable wear and tear excepted. Intrado may, at its discretion, remove, replace or upgrade Customer-provided equipment. The Intrado-provided equipment is privately managed and closed to all third-party software applications (any software not provided by Intrado) and internetworking. Intrado will provide insurance for all such equipment.

3. SYSTEM TESTING AND PRODUCTION MIGRATION

Intrado will work with Customer to finalize and mutually agree on Testing and Production Migration Plans for each A9-1-1 Service. The Testing and Production Migration Plans will define:

- Tests to be conducted prior to and as part of migration to the Service
- System testing and the production migration for each Customer PSAP

If requested by Intrado, Customer will provide personnel at each of Customer's PSAPs to assist Intrado in the execution of the migration testing to:

- Answer the test voice and text calls
- Request and display Enhanced Data services
- Join conference bridges
- Provide test call screen prints and/or voice recordings/text transcripts to Intrado on request (unless Customer is prohibited by law to do so).
- Provide test call feedback on
 - Voice quality, functionality, and other information
 - Text call interactions including predefined standard messages
 - Enhanced data display

4. MONITORING, MAINTENANCE, AND OPERATIONAL TECHNICAL SUPPORT

The sub-sections below describe Intrado's monitoring, maintenance, and operational technical support for the Intrado systems supporting the A9-1-1 Services.

4.1 A9-1-1 Routing, A9-1-1 Location Data Management, and A9-1-1 VIPER Systems in the 9-1-1 Voice/Data Delivery Path

Intrado will provide and maintain redundant systems when in the 9-1-1 voice/data delivery path.

Maintenance and upgrade activities will be conducted on one of the redundant systems at a time to minimize any impact to the Services.

Intrado monitors each Intrado system component in the 9-1-1 voice or data delivery path on a 24x7x365 basis.

Intrado will provide application level monitoring for Intrado-provided network connectivity, including Intrado-provided redundant MPLS connectivity between Intrado's systems and Customer's PSAPs. Intrado is responsible for detecting application and network failures in these systems. Intrado notification procedures are followed for any service degrading network or hardware failure.

Intrado's diverse and redundant network design provides the capability to automatically fail over 9-1-1 voice or data path traffic if a facility failure occurs, where redundant connectivity is available.

Intrado cannot monitor routers, multiplexers, or any other network components not under Intrado's control. Where Intrado is not considered the customer of record for the network data communications links, the customer of record must provide Intrado with a means to submit trouble tickets for network problems. The customer of record must work with the network provider and Intrado to resolve network issues in a timely manner.

Intrado will provide ongoing maintenance and support for all Intrado-provided equipment at the PSAP. Maintenance and support for all systems, including Intrado-provided equipment, includes periodic software upgrades, OS upgrades and other system maintenance as necessary for A9-1-1 Services.

Intrado will assist Customer and Customer's PSAPs in solving problems, misroutes, translation errors, and data retrieval problems or maintenance issues.

Intrado will provide field support personnel to correct system issues and replace equipment at Customer's PSAPs when determined necessary by Intrado.

4.2 Non 9-1-1 Call-Path A9-1-1 Services Systems

Intrado will also provide, maintain, and monitor 24x7x365 all Intrado A9-1-1 systems that are not in the 9-1-1 voice or data path, including:

- Intrado data management systems
- Provisioning systems (e.g., 9-1-1 NET)
- Metrics Reporting Tools (e.g., Clear View)
- Customer Premise Equipment provided by Intrado (but not including peripheral equipment such as monitors, keyboards, printers, etc.)

Intrado will provide personnel to address reported issues and system outages according to the availability of each system.

4.3 Daily Operational Support and Escalation Procedures

Intrado will provide daily operational support to Customer during Intrado Normal Business Hours. Intrado will provide appropriate contact information to Customer. In some circumstances, Intrado is dependent on the Customer or Customer's PSAP to provide timely and accurate information to resolve problems.

4.4 System Audit Records

Intrado will store system audit logs for the Intrado systems involved in 9-1-1 call and data processing associated with its obligations outlined within the individual A9-1-1 Services Guides. For example:

- A9-1-1 Location Data Management Services:
 - Each transaction that occurs to modify a subscriber TN, error, or MSAG record in Intrado's data management system
 - Location data returned in response to each PSAP query, as well as the dynamic location updates received from each Wireless, VoIP, and Telematics MPC/GMLC/VPC via the E2 interface

- A9-1-1 Routing Services: A9-1-1 Routing call detail records
- A9-1-1 TXT29-1-1 Services: Text Transcripts
- A9-1-1 Enhanced Data Services: Data records associated with an emergency event
- A9-1-1 VIPER Services: Power 911 activity as recorded in the VIPER MIS

Intrado stores system audit logs for minimum one (1) year. Intrado can provide pricing for data recovery past the term of this Service Guide on request.

For other system audit records, Intrado will provide transaction history reports to Customer on request. Requests for information from the previous thirty (30) days are generally available within ten (10) calendar days. Requests for information older than thirty (30) days takes a minimum of three (3) weeks, and are subject to additional fees.

4.5 Subpoena Compliance

Intrado will reasonably comply with requests made by Customer for specific subpoena-related audit record data. Intrado can accommodate most requests within five business days, provided that the request contains the full TN (Wireline 9-1-1 call) or CBN (Wireless/Text/VoIP/Telematics call), PSAP name, and a specific date and time. Requests for data that are vague or require extensive research will not be processed until additional detail is provided by Customer.

Requests that require extensive research will be subject to additional charge.

5. SERVICE DISRUPTION

The Intrado Public Safety Support Center (PSSC), available 24x7x365, will be Customers point of contact for any urgent technical or operational support issues on all A9-1-1 Services provided to Customer's PSAPs. Intrado will work with Customer to triage all Intrado systems to determine the appropriate resolution.

5.1 Operations Support Plan and Escalation Procedures

Intrado will provide to Customer Operations Support and Escalation Procedures. Details include notification procedures, documentation to be provided, problem escalation procedures and contacts, and general Intrado PSSC support provisions. Intrado will use best practices to structure and maintain these procedures.

5.2 Incident Management Administration

When a PSAP-affecting issue is identified which significantly impacts A9-1-1 Service delivery, Intrado may declare an incident and engage the Intrado incident administration team. This team uses Intrado ISO processes for escalation, notification, and reporting. The Intrado incident administration team will coordinate communications, monitoring, and resolution of the issue per a strict incident command procedure. The Intrado incident administration team will also document appropriate items, which may include root cause analysis, PSAP impacts, countermeasures, and resolution. The Intrado incident administration team has 24x7x365 on-call availability and has the appropriate tools to escalate problems to the Intrado technical teams and associated vendors.

5.3 Software Release Upgrades

Intrado will complete and install regularly scheduled software release upgrades on the Intrado A9-1-1 systems as appropriate.

Intrado maintains and follows documented processes for all software development and release upgrades in accordance with its ISO certification. Intrado will SQA test software release upgrades and Intrado initiated engineering changes prior to installation on A9-1-1 Services systems.

Customer should plan for one to two major or feature releases each year, with additional patch releases if needed to address Severity 1 or Severity 2 issues. Intrado will provide Customer advance notification of all scheduled release upgrades per the guidelines within this guide.

5.4 Scheduled Maintenance and Upgrades

Intrado will schedule planned events for all A9-1-1 Services system maintenance or upgrades that may impact Customer's PSAPs. The Intrado Program Manager will send a notification to Customer for each planned event a minimum of 24 hours in advance of the scheduled start time.

Intrado may also have a periodic need to perform proactive system maintenance to prevent an imminent or likely system failure. The risk posed by the system issue may not allow Intrado to provide Customer with a 24 hour notice for this type of event, called emergent events.

Intrado will fully manage and complete scheduled maintenance and upgrades with a trained event management team, facilitating the change implementation, monitoring, and communication through the length of the event.

5.5 Severity Levels

Intrado will address all A9-1-1 Services issues, whether identified by Intrado or by Customer, according to the Intrado-confirmed Severity Level. Severity Levels determine the appropriate contact procedure and the actions that will be taken by Intrado for initial notification time, status update time, and incident management.

Following are service disruption definitions and procedures for each Severity Level, and the response time goals for each Severity Level:

5.5.1 Severity Level 1

Systems supporting A9-1-1 Services are completely inoperative or severely impacted where critical network or data communication problems on the Intrado system that prevent Intrado from routing or delivering data for 9-1-1 voice calls, or that prevent the Customer from handling such 9-1-1 calls through the Intrado-provided PSAP equipment.

Examples: PSAP not receiving calls, audio is working on only one side of incoming calls, End Office traffic not able to reach PSAP a failure of the A9-1-1 VIPER Services system resulting in a loss of 50% or greater of call-taker positions or 50% or greater of call processing capacity. Critical network or data communications problems on an Intrado system that prevents Intrado from returning ALI bids, and/or network hardware, circuit, or failure of Intrado's link to ALI.

Intrado will apply immediate and sustained effort until a resolution is in place. If a resolution cannot be readily identified, Intrado will initiate internal escalation procedures to assure resources are appropriately assigned for problem resolution efforts.

Resolution Procedure: Intrado will correct the service disruption or provide a procedure for PSAP to bypass or work around such disruption in order to continue operations if possible. If a bypass procedure is utilized, Intrado will provide PSAP with an action plan for the development of the final resolution, and Intrado will continue resolution activity until full service is restored to PSAP.

5.5.2 Severity Level 2

Systems supporting A9-1-1 Services are impaired, where major functions are operative but functioning at limited capacity or critical elements are no longer redundant.

Examples: Reduced incoming trunk capacity, intermittent or sustained non-delivery of voice or ANI, sustained line noise or interference. Data Management system failures that prohibit the processing of service order files within the contractually defined response times; system response time problems; single sided ALI node. A failure of the A9-1-1 VIPER Services system resulting in a loss of less than 50% of call processing capacity and having the potential to severely impact PSAP operations.

Intrado will apply sustained effort until a resolution is in place. If a resolution cannot be readily identified, Intrado will initiate internal escalation procedures to assure resources are appropriately assigned for problem resolution efforts.

Resolution Procedure: Intrado will correct the service disruption or provide a procedure for the PSAP to bypass or work around such disruption in order to continue operations if possible. If a bypass procedure is utilized, Intrado will provide PSAP with an action plan for the development of the final resolution, and Intrado will continue resolution activity until full service is restored to PSAP.

5.5.3 Severity Level 3

Systems supporting A9-1-1 Services are impaired and some functions are not operating, but those functions are not mandatory or critical to 9-1-1 call delivery.

Examples: Intermittent poor voice quality or PGM port loss. ALI data communications are reaching PSAP but not all fields are in correct format. A9-1-1 VIPER faults that do not affect the operation of the product/system, however are visible to the user. A9-1-1 VIPER faults resulting in minor functions or features being inoperable, unsupported, or unreliable. A9-1-1 VIPER faults involving an agreed on workaround

Intrado will address via standard maintenance procedures during Intrado Normal Business Hours. If a software fix is required, Intrado will provide a fix during the next scheduled software release.

5.5.4 Severity Level 4

Systems supporting A9-1-1 Services are impaired and some functions are not operating, but the impairments are considered minor or cosmetic and have only a minor impact on usability.

Examples: Metrics report issues, documentation issues, system anomalies that occur only once. A9-1-1 VIPER faults resulting in minor functions or features being unsupported or unreliable in ways the Customer will not notice.

Intrado will address via standard maintenance procedures during Intrado Normal Business Hours. If a software fix is required, Intrado will provide a fix during the next scheduled software release.

5.5.5 Onsite Response Time Goals:

The on-site response time goals are stated in the chart below. On-site response times will apply if Intrado determines it is necessary to go on-site to repair a problem with the A9-1-1 Services.

Severity Level	On-Site Response Time Goal
1	4 hours
2	4 hours
3	Next Business Day
4	Not applicable

6. GLOSSARY

These definitions are not necessarily the definitions used by the Federal Communication Commission (“FCC”) or any other governmental, industry, or private organization or entity. Certain definitions may not appear in a Service Guide, but are included in the definitions for consistency across Intrado products.

Any Time Interrogation (“ATI”) is a location service protocol for wireless networks to send a location request query.

Automatic Location Identification (“ALI”) means the automatic display at the PSAP of the caller’s telephone number and the address/location of the telephone. Additional telephones with the same number as the calling party’s (secondary locations, off premises, etc.) will be identified with the address of the telephone number at the main location.

ALI Record means a database record, which includes the name, address or address equivalent, and the telephone number of a caller.

Alternate Routing (“AR”) means a method by which 9-1-1 calls are routed to a designated alternate location if all A9-1-1 Routing voice paths to the primary PSAP are busy, or the primary PSAP is closed for a period of time.

Automatic Number Identification (“ANI”) means the TN of the telephone or other device from which an Emergency Call is placed that is forwarded to the Customer’s call handling system for display.

Border Control Function (“BCF”) - An ingress gateway that will allow originating networks to natively deliver calls to the Intrado ESInet. It also allows communication between external ESInets and the Intrado ESInet.

Call Information Database (“CIDB”) - Included in the i3 vision is the separation of caller location information from other information about the call, caller or location. The CIDB(s) contains information such as Carrier Name, Class of Service, etc.

Centralized Automatic Message Accounting (“CAMA”) means Trunks that were originally developed for billing purposes to deliver the calling party number. These trunks were modified so that wireline companies can deliver ANI for E9-1-1 calls. These trunks are located between the End Office, MSC, VoIP Gateway and the Tandem Selective Router. CAMA trunks are also utilized almost exclusively between the Selective Router and the PSAP.

Customer E9-1-1 Service Area means the geographic area in which Customer PSAPs will respond to all 9-1-1 calls and dispatch appropriate emergency assistance.

Customer short code or telephone number means a 5 or 6-digit short code or a 10-digit telephone number provisioned through a SMS aggregator for the routing of non-emergency text messages via Intrado’s messaging gateway system.

Database Reconciliation means a comparison between the TSP source records and Intrado’s Database Management System.

Data Integrity Unit. (“DIU”) means Intrado’s team of data analysts responsible for the integrity of live E9-1-1 data.

Default Routing (“DR”) means a feature activated when an incoming 9-1-1 call cannot be selectively routed due to an Automatic Number Identification (ANI) failure, garbled digits or other causes. Such incoming calls are routed from the A9-1-1 Routing network to a default PSAP designated by Customer.

E9-1-1 Database Provider means an agency responsible for maintaining and supporting the ALI database and associated infrastructure.

Emergency Call Relay Center (“ECRC”) means Intrado’s inbound call center, staffed 24 hours per day, 7 days per week, and 365 days per year for Emergency Calls in support of Customer PSAPs. For purposes of this SOW and the Services provided hereunder, “Emergency Call Relay Center” and “ECRC” will include a third party contracted by Intrado to perform call center services.

Emergency Call Routing Function (“ECRF”) - An ECRF is used to determine call routing to the “next hop”. The next hop may be another ESInet or the PSAP. An ECRF has ability to receive the geodetic or civic location information (PIDF-LO) via the LoST protocol and determine where the call is to be routed. An ECRF can also define specific GIS layers (Police, Fire, and EMS) that enable ECRF to respond to a PSAP that supports a terminating ESRP function for queries to determine Police, Fire, and EMS based upon the location.

Emergency Services IP Networks (“ESInet”) - An ESInet is a managed IP network that serves a set of areas within a defined set of polygons that incorporates i3 functions for call routing.

Emergency Services Messaging Interface (“EMSI”) means an ATIS/ESIF recommended standard delivery of Enhanced 9-1-1 data to a CESE, including ALI and supplemental data.

Emergency Service Number (“ESN”) means the numbers used to identify primary and secondary PSAP locations as well as unique combinations of police, fire, ambulance or any other appropriate agencies responsible for providing emergency service in the Customer E9-1-1 Service Area. ESNs are

programmed into the Automatic Location Identification-Data Management System and are assigned by Customer to facilitate the routing and transfer features.

Emergency Service Routing Digit (“ESRD”) means an identification of call origination. It is a ten-digit number used to support the routing of wireless 9-1-1 calls through the 9-1-1 network. The ESRD is also utilized at the PSAP for static ALI record retrieval for CAS or hybrid-CAS solutions.

Emergency Services Routing Proxy (“ESRP”) - An ESRP is a routing proxy function that is used for routing emergency calls. It provides the ability to query ECRF to determine PSAP routing information or to determine the next hop that the call needs to route to that will ultimately get the call to the appropriate PSAP. Within an ESRP there exists the Policy Routing Function (PRF), which contains the rules and logic for exception routing (e.g., Time of Day).

Enhanced 9-1-1 (“E9-1-1”) means an emergency telephone system which includes network switching, database, and CPE elements capable of providing Selective Routing, Selective Transfer, Fixed Transfer, ANI, and ALI information.

ETG is the Intrado Emergency Text Gateway server which routes and sends text messages to the PSAP.

Fixed Transfer means a feature which enables a PSAP attendant to transfer incoming 9-1-1 calls to pre-defined destinations.

HTTP Enabled Location Delivery (“HELD”) - HELD may be used in two different contexts: HELD using identity extensions and HELD Dereference. HELD using identity extensions is an HTTP protocol used by the user equipment to query for its location using an identity such as its IP address or Telephone Number. HELD Dereference is an HTTP protocol used by the LNG and ESRP function to query the LIS for the location information of a specific user.

Intelligent Emergency Network means a fully managed solution offering emergency call delivery and management services for both voice and data.

Intelligent Emergency Network Customer means a municipality, state or local governmental unit, or an authorized agent of one or more of these units to whom the Customer Emergency Telephone System Plan has lawfully delegated authority. The Intelligent Emergency Network Customer must be legally authorized to subscribe to the service and have public safety responsibility by law to respond to emergency calls from the public within the Intrado’s service areas where Intelligent Emergency Network Service and/or PS/ALI Service are provided.

Intrado Point of Interconnect (POI) – The Intrado POI is the demarcation point between the A9-1-1 network and the Customer CPE network (independent of CPE type or vendor)

Internet Protocol (“IP”) is the principal **communications protocol used for relaying network packets using the Internet Protocol Suite.**

Inter System Position Request (“ISPOSREQ”) is a location service protocol for wireless networks to send a location request query.

Legacy Network Gateway (“LNG”). LNG function supports the ability to convert emergency calls originating in the legacy wireline, wireless or VoIP networks (i.e., CAMA and SS7 calls) to SIP with PIDF-LO. LNG functional elements: (i) Protocol Interwork Function (PIF): converts the TDM and analog signaling (SS7, CAMA) to SIP; (ii) Location Interwork Function (LIF): determines the location of the call by querying an external location server/database Location Interface Server (LIS); (iii) NG9-1-1 Interwork Function (NIF): uses this location information to query the ECRF to determine which Emergency Service Routing Proxy (ESRP) to route the call. The resulting SIP Invite message to the ESRP also supports PIDF-LO containing the location by value or location by reference.

Location Information Server (“LIS”) - The LIS is a database that contains location information about a specific user. The key into this database may be the IP address or Telephone Number using HELD with identities or a Location Universal Reference Identifier (URI) using HELD Dereference.

LoST (“Location-to-Service Translation Protocol”) - LoST is a protocol used to map geographic locations to routing addresses (e.g., Public Safety Answering Points) based on GIS data that is owned and controlled by the PSAP or 9-1-1 authority and provisioned in an ECRF.

Local Exchange Carrier (“LEC”) means a telecommunications carrier that provides local exchange telecommunications services. Also known as Incumbent Local Exchange Carrier (“ILEC”), Competitive Local Exchange Carrier (“CLEC”), Local Service Provider, and Local Dial Tone Provider.

Manual Transfer means a feature that enables the PSAP attendant to transfer an incoming 9-1-1 call by manually obtaining dial tone through use of the telephone switch or the appropriate button on the PSAP call handling equipment and dialing the appropriate telephone number or speed calling code.

Master Street Address Guide (“MSAG”) means a database of street names and house number ranges within their associated communities and Emergency Services Numbers (“ESNs”) to enable the proper routing of 9-1-1 calls.

Mobile Switching Center (“MSC”) means a switch that provides stored program control for wireless call processing. The MSC identifies the switching office that processes the cellular call to the public switched telephone network (“PSTN”) and provides wireless two-way telecommunications services.

Multi Line Telephone System (“MLTS”) means a telephone system with more than one line per telephone station.

Multiprotocol Label Switching (“MPLS”) means a standards-approved technology for speeding up network traffic flow and making it easier to manage.

National Emergency Number Association (“NENA”) means a professional association comprised of emergency number personnel, 9-1-1 equipment vendors, and telephone company personnel responsible for the planning, implementing, managing, and administering of emergency number systems.

NETS is an acronym for Non-Emergency Text Service

Node means a computer utilized to multiplex Automatic Location Identification data lines between the PSAPs and the ALI Data Management System computers. A pair of Node computers is utilized for up to forty-eight PSAPs.

Node Port means a port required on the Node to transmit data from the ALI MGT computer to the PSAP.

Normal Business Hours or **Business Hours** are Monday through Friday, 8:00 AM to 5:00 PM Mountain Time, excluding Intrado holidays.

Number of Records means the quantity of TNs resident in the PS/ALI Database that corresponds to geographic locations of Customer and/or Customer’s Subscribers.

PBX Station means a telephone with a unique identifying number which is connected internally and directly to the PBX.

PIDF-LO (“Presence Information Data Flow – Location Object”) - PIDF-LO is a XML syntax used within a SIP message that contains location information by reference or by value.

Private Switch/Automatic Location Identification (“PS/ALI”) means a service offering which allows location information specific to the PBX extension to be added to the ALI database record.

PS/ALI Customer means the municipality or other state or local governmental unit, or an authorized agent of one or more municipalities or other state or local governmental units, or a PBX owner/operator, or Centrex AT&T who desires to provide station location information to the ALI Management system.

PSAP direct number (“PSAP DN”) means a 10-digit local exchange telephone line of the geographically appropriate PSAP for any given emergency call request. This dialable number has been indicated to Intrado’s analyst team by the PSAP or county as the appropriate 24x7 direct number for wireless call failover.

PSAP Gateway Manager (PGM) means a component of Intelligent Emergency Network that converts between IP and CAMA trunking into the PSAP CPE ANI controller.

Point of Interconnection (“POI”) means the location where End Offices, MSCs, and VoIP carriers connect into the Intrado Intelligent Emergency Network with their 9-1-1 voice traffic.

Port means a pathway into and out of a computer or a network device, such as a switch or router. Any device that transmits and receives data implies an available port to connect to each line.

Primary Rate Interface (“PRI”) means a trunking technology which enables the networking of multiple locations. A single PRI trunk can carry various types of traffic. PRI trunks offer more flexibility than traditional analog trunks.

Private Branch Exchange (“PBX”) means a telephone system within an enterprise that switches calls between enterprise users on local lines while allowing all users to share a certain number of external phone lines. The main purpose of a PBX is to save the cost of requiring a line for each user to the telephone company's central office. This internally switched telephone system is of significance to an Intelligent Emergency Network system because internal PBX stations may not always be contained in the ALI database, and as a result, may not be correctly displayed by Automatic Number Identification or Automatic Location Identification equipment.

PSAP direct number (“PSAP DN”) means a 10-digit local exchange telephone line of the geographically appropriate PSAP for any given Emergency Call request. This dialable number has been identified to Intrado’s analyst team by the PSAP or county as the appropriate 24x7x365 direct number for wireless call failover.

Pseudo ANI (“pANI”) means temporarily associating a non-dialable ANI containing a NPA/NXX corresponding to the geographically appropriate PSAP to facilitate call routing and ALI delivery to the PSAP for “mobile” calls. Per FCC Report and Order 94-102, the Carrier must at least route a wireless caller’s 9-1-1 call to the nearest PSAP and deliver the associated ten-digit wireless handset telephone number, the cell site and the sector.

Public Safety Agency means those governmental agencies, which by law are responsible for the delivery of emergency services within the Customer E9-1-1 Service Area.

Public Safety Answering Point (“PSAP”) means a facility equipped and staffed to receive Emergency Calls.

Public Switched Telephone Network (“PSTN”) means the network systems and connectivity operated by incumbent operating telephone companies to route and deliver voice calls to the indicated emergency TN.

Request For Assistance (“RFA”) means the emergency request made by a person to Public Safety. The request may be in the form of a traditional 9-1-1 call over Wireline, wireless or VoIP telephony devices, in addition to devices that utilize Internet Protocol (IP) for delivery.

Request For Assistance Interface (“RFAI”) means the interface used to deliver Requests For Assistance over Internet Protocol (IP) to PSAP CPE.

Request Initiator means the person sending a text message from a wireless device to the Customer short code or 10 digit telephone number.

Secure ID token means an electronic security password device used to enable an individual user to log into Intrado’s web site for the purpose of updating Customer records.

Selective Router (“SR”) means a telephone switching center that receives 9-1-1 calls from other offices and uses the ANI or pANI to route them to the proper PSAP. Operated by the LEC serving a particular PSAP. Some LECs call this the 9-1-1 “tandem” office.

Selective Routing (“SR”) means the routing of a 9-1-1 call to the proper Public Safety Answering Point (PSAP) based on the location of the caller. Selective routing is controlled by the ESN which is derived from the Customer location.

Selective Routing Database (“SRDB”) means a 9-1-1 selective routing translations database that contain phone number/ESN Routing Code relationships that route a 9-1-1 call to the proper PSAP.

Selective Transfer means a feature that enables a PSAP attendant to transfer an incoming 9-1-1 call to another agency by depressing a button labeled with the type of agency; e.g., "Fire," on the PSAP call handling equipment.

Service Order Input Record (“SOI”) means a database record which includes the name, address or address equivalent, and the TN of a wireline carrier’s customer.

Session Initiation Protocol (“SIP”) means an application-layer control (signaling) protocol for creating, modifying, and terminating sessions with one or more participants, including Internet telephone calls, multimedia distribution, and multimedia conferences.

Short code or telephone number means a 5 or 6-digit short code or a 10-digit telephone number provisioned through a SMS aggregator for the routing of text messages to a PSAP via Intrado’s messaging gateway system.

Short Message Service (“SMS”) is a protocol for text messaging. SMS text messages are delivered through wireless carrier networks on a bandwidth available basis, and message delivery is not guaranteed.

SMS means Short Message Service which is a protocol used for text messaging. SMS text messages are delivered through wireless carrier networks on a bandwidth available basis, and message delivery is not guaranteed.

Standard Addressing means a system for addressing which provides street/road names and house numbers, used in populating the Automatic Location Identification/Data Management System.

Subscriber Record means a database record which includes the name, address or address equivalent, and the TN of an end user (Subscriber).

Telephone Number (“TN”) means the ten (10) digit telephone number used to deliver a call through the PSTN to a designated Subscriber.

Telephone Number record (“TN record”) means Subscriber records in the ALI and Selective Routing databases, including wireline TN records, wireless ESRKs, and VoIP ESQKs.

Telephone Service Provider (“TSP”) means a business or organization that offers users access to the Telephone and related services. TSP entities include Local Exchange Carriers, independent operating companies, Competitive Local Exchange Carriers, wireless service providers, and VoIP Service Providers (VSPs).

Terminating ESRP/i3 PSAP - The terminating ESRP feature is the ability for a PSAP to receive an i3 IP call with Location by Value (LbyV) or Location by Reference (LbyR). If the terminating ESRP receives LbyR, it may query the LIS for location information and location information updates with the dereferencing protocol using HELD. The terminating ESRP may query the CIDB via web services to obtain additional data about the call, caller, or location. The terminating ESRP may query the ECRF via the LoST protocol to determine first responder agencies (e.g., Police, Fire, and EMS) associated with the location.

Text dialogue means SMS text messages sent back and forth between the initiator, Intrado’s A9-1-1 NETS system, and Customer PSAP personnel until the dialogue has been terminated (closed) by the PSAP personnel.

Text message means a SMS text message sent by a request initiator to the Customer short code.

Trunk means a telephone circuit connecting switching equipment between two sites, as between a PBX and POI, or between two central offices.

TTY/TDD (“TTY” [teletypewriter], “TDD” [telecommunication device for the deaf]) means a device that enables people who are deaf, hard of hearing, or speech-disabled to use the telephone by typing messages. In order to communicate, a TTY is required at both ends of the conversation, unless the call is placed through a Relay Center.



Intrado[®] A9-1-1 Location Data Management Service Guide

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1. INTRODUCTION

A9-1-1 Location Data Management Service (the “Service”) provides hosted location and customer information database systems and 9-1-1 data management services, including MSAG validation, service order input (SOI) processing and validation, and metrics reporting.

This Service Guide provides customers with the following information:

- Responsibility Matrix
- Detail on A9-1-1 Location Data Management Services, including a services description and response times
- Project implementation tasks to move to A9-1-1 Location Data Management Services
- Operational coordination between Intrado and Customer

1.1 Shared Services

Terms relating to facility requirements, system testing and migration, and support and escalation procedures, are described in the A9-1-1 Shared Service Guide referenced in Customer’s Service Order. These terms will apply to the A9-1-1 Services described herein. In addition, the glossary found in the A9-1-1 Shared Service guide will define certain capitalized terms used in this Service Guide.

1.2 Responsibility Matrix

The following matrix outlines the typical responsibilities of each party for the Service. Where both parties have been listed, additional detail on the responsibilities of each party is included in the Sections below.

Task	Responsibility
<u>Project Implementation</u>	
Project Management	Intrado/Customer
TSP Coordination	Intrado
TSP Integration Architecture	Intrado
Develop Intrado methods and procedures	Intrado
<ul style="list-style-type: none"> ▪ Intrado’s operations ▪ Intrado’s interface with TSPs, county/municipal coordinators, and each Customer PSAP 	
Process Documentation	Intrado/Customer
A9-1-1 Location Data Management Services system architecture	Intrado
PSAP facilities	Customer
Data Integrity	
MSAG Extracts (pre-i3)	Customer
TN Record Extracts	Intrado/TSPs
MSAG Analysis (pre-i3)	Intrado
TN Record Analysis	Intrado

Task	Responsibility
MSAG Data – Issue Resolution	Intrado/Customer
TN Record Data – Issue Resolution	Intrado/Customer/TSP
A9-1-1 Routing Selective Router Database (SRDB) Data	Intrado
Non-Intrado PSAP Equipment	Customer
<ul style="list-style-type: none"> ▪ This may be legacy equipment or new equipment purchased under another Customer agreement. ▪ Non-Intrado PSAP Equipment includes the CAD system and the radio system if applicable 	
Location Data Management Tool Training	Intrado
End to End Testing	Intrado/Customer
Final Data Load – MSAG, TN Record	Intrado/TSP /Customer
Training (PSAPs, CLECs, TSPs, Third Party Providers)	Intrado/Customer
Develop plan and execute Migration Testing	Intrado/Customer
Production Turn-up	Intrado/Customer
<u>Ongoing Responsibilities</u>	
TSP Coordination	Intrado
TSP Escalation Point	Customer
Maintain Intrado methods and procedures	Intrado
<ul style="list-style-type: none"> ▪ Intrado operations ▪ Intrado interface with TSPs, county/municipal coordinators and each Customer PSAP 	
Data Integrity	
MSAG Build/Maintenance	Intrado/Customer
Service Order Processing	Intrado
Error Correction and Referral	Intrado/Customer/TSP
TN Data Extracts and Distribution	Intrado
MSAG Data Extracts and Distribution	Intrado
Basic LNP Processing	Intrado
Database Reconciliations	Intrado
SRDB Updates	Intrado
ESN/ELT Build/Maintenance	Intrado/Customer
ALI Discrepancy Reporting/Resolution	Intrado/Customer/TSP
Metrics Reporting	Intrado
Trend Analysis/Data Investigation	Intrado/Customer
System Monitoring	Intrado
System Maintenance	Intrado
System Upgrades	Intrado
Log storage and backups	Intrado

Task	Responsibility
Problem Reporting	Intrado/Customer
Problem Triage and Resolution	Intrado/Customer
Single Point of Contact for Customer & TSP Data Issues	Intrado

Table 1: Responsibility Matrix

1.3 Project Implementation

The Service may be deployed in phases to allow for establishment of the necessary agreements with the Local Exchange Carrier (“LEC”) and other Telephone Service Providers (“TSPs”).

Services implementation begins with a planning phase, where communications with the LEC and other TSPs are initiated, connectivity between the Customer’s PSAP(s) and Intrado’s Location Database Management Systems are ordered (if not already in place), each PSAP site is surveyed, and data collection and analysis begins.

Following the initial planning phase is data collection and simulations. Intrado will work with each Customer PSAP to migrate location data management from the legacy ALI provider to the A9-1-1 Location Data Management Services system. Intrado will also work with each TSP and Customer PSAP to conduct data processing simulations

Intrado will work with Customer to schedule migration of each PSAP to the Service as data collection for each PSAP and TSP simulations are completed.

1.3.1 Implementation Project Support

Intrado designates a project manager to act as Intrado’s project lead and the primary interface with the Customer’s appointed contact for implementation project collaboration, including identification and communication of key milestone dates and events for the implementation timeline. The Intrado project lead manages overall program tracking of the master project plan and task management of the project implementation. Similarly, the Customer designates a 9-1-1 operations contact to act as the Customer’s project lead. The Customer’s project lead works with the Intrado project lead in reporting and verifying problems, and facilitates ongoing communications with Intrado.

The Intrado and Customer project leads will manage a kickoff meeting to establish communication strategies and contacts between the Parties, review the scope of the services, and review the requirements and timelines. The project leads will facilitate additional meetings as necessary for implementation planning, design, and requirements definition. The meetings include both Intrado and the Customer’s appropriate technical and operational groups to assure a solid understanding of the network architecture, data exchange procedures, PSAP needs, standard operational procedures, and services as designed for the Customer.

For efficient project implementation, Intrado requests the Customer assign appropriate Information Technology (IT) personnel and experienced call takers at each PSAP who understand the overall impact of the transition of the 9-1-1 services and can assist in the overall impact planning for transition activities such as testing and migration.

The Intrado project manager coordinates and manages the necessary Intrado resources to complete the A9-1-1 Data Management Services deployment activities. The Intrado project manager works with each Customer PSAP to develop a detailed project plan that includes

milestones for each project phase. This plan is refined over the course of the project as mutually agreed by both parties. The Intrado and Customer Project Managers will be available for regular status meetings as necessary to ensure the project moves forward appropriately.

1.3.2 TSP Coordination

Intrado works with the Customer to develop a joint communication to each PSAP, government organization, and appropriate TSPs outlining the scope of Services to be implemented, a high-level implementation schedule, and key contact information for each entity. Intrado distributes the communication on behalf of the Customer.

Intrado takes responsibility for facilitating the establishment of TSP communication guidelines with Customer and adhering to these guidelines for the project implementation and service duration. Intrado establishes expectations with each TSP and manages communication to the TSP for items related to A9-1-1 Location Data Management Services on behalf of the Customer. Intrado will escalate to Customer as appropriate regarding TSP initiatives and will request Customer intervention when necessary.

1.3.3 TN and MSAG Data

For the initial migration, the Customer is responsible for providing the following in accordance with the detailed project plan timeline:

- A full MSAG extract for the E9-1-1 Service Area of each Customer PSAP
- A complete list of all ESNs and ELTs in an electronic form for the E9-1-1 Service Area of each Customer PSAP

Intrado works with each TSP to obtain a copy of TN records. On receipt of both the TN record extracts and the Customer's MSAG, Intrado performs a data analysis. The data analysis consists of a TN simulation process to determine the percentage of TN records that will initially pass MSAG and data field validations prior to the load into the Intrado location data management system. Intrado will compare the Customer MSAG against each TSP's TN records and return all discrepancies to the TSP, to Customer, or to the county/municipal coordinator, as appropriate for investigation and resolution.

Intrado requires the percentage of TNs that successfully pass MSAG validation ("Match Rate") in the TN simulation to be ninety-eight percent (98%) or greater for all TSP TN records. This Match Rate is required before Intrado will load the records into the ALI database and begin production data validation. If the Match Rate is less than ninety-eight percent (98%), Intrado will work jointly with the Customer and each TSP to increase the quality of the MSAG and TSP data to further increase the Match Rate, provided, however, that it is ultimately Customer's and each TSP's responsibility to reach the Match Rate.

Intrado will perform up to three TN simulations at no cost to Customer.

Once the Match Rate has been achieved, the TSP TN data is deemed acceptable to load into the Intrado data management system.

The following services are out of scope and may be addressed through a change order:

- Data Transition Services, including MSAG builds and TN record loads, for any municipality located outside Customer's E9-1-1 Service Area.

- Conversion of MSAG data that is not in electronic form, creation of a new MSAG database, or repair to an MSAG that lacks defined emergency service zones (if needed) and/or ESNs.

1.3.4 Wire Center Overlap Resolution

Intrado's A9-1-1 Location Data Management implementation depends on TSP and LEC cooperation to resolve wire center overlap issues.

Wireline end offices for which 9-1-1 calls for some TNs need to route to a PSAP utilizing one location data management (ALI) service and 9-1-1 calls from other TNs need to route to a PSAP using a different location data management (ALI) service are considered to be "split end offices" or "split wire centers".

For these split end offices, the TSP will be requested to "sort" the TNs within the split wire center, and submit/maintain data for TNs that should route to Customer PSAPs to the Intrado A9-1-1 Location Data Management system.

Where the TSP cannot segregate the TN data at end office level, Intrado will work cooperatively with the TSP and the LEC to establish data provisioning and processing arrangements.

2. LOCATION DATA MANAGEMENT SERVICES

Intrado's Location Data Management Services includes hosted systems and data management services to deliver E9-1-1 location information to Customer's PSAPs.

Intrado's redundant ALI systems deliver location and Customer information data in a conventional ALI format to the Customer's call handling system, for subsequent display on each PSAP CPE workstation.

Intrado works with the Customer and each TSP to transition E9-1-1 data for each of Customer's PSAPs, including Telephone Number (TN) records and tabular MSAG records to Intrado's E9-1-1 database systems.

Intrado appoints an E9-1-1 data integrity manager to work with Customer and TSPs in reporting/verifying problems, reviewing/rectifying error reports, and managing system administration duties.

2.1 Service Order Exchange

Intrado works with each TSP in Customer's E9-1-1 Service Area to determine the most appropriate connectivity for electronic service order data exchange. Depending on the TN Record volume, a dedicated circuit or secure Internet connectivity may be selected for data exchange.

Intrado will provide the Customer and each TSP with data exchange guidelines (detailing input and output files with required data elements and error codes). Intrado may periodically update the data exchange guidelines, as appropriate.

2.2 Intrado 9-1-1 NET®

Intrado's web-based 9-1-1 NET system allows each Customer PSAP, TSPs, and Intrado Data Integrity Analysts to perform a number of functions. For instance, with 9-1-1 NET, Customer PSAPs can:

- Query, request, and track changes to MSAG records. 9-1-1 NET provides reporting tools to allow a user to look-up tabular MSAG records by Entity, Dir, Street, Community, ESN, or MSAG System.
- Query, request and track problems with ALI data on 9-1-1 calls, including ALI Discrepancies and No Record Finds (NRFs).
- Query, request, and track changes to TN Records within Customer's E9-1-1 Service Area.
- Query, request, and track changes to ESN/ELTs. 9-1-1NET allows users to retrieve ESN records by ESN, PSAP Name, ELT, ESSID, Entity, or MSAG System.
- Obtain status information and metrics.

With Intrado 9-1-1 NET, TSPs can:

- Query ALI data on ALI DR or NRFs that are referred to them
- Query their TNC and query TN records by COID

The Intrado 9-1-1 NET system provides PSAPs online access to live MSAG data, change requests, historic tracking, and reporting capabilities such as TN Query and TN Error Query. The system automatically returns a transaction number verifying the acceptance of the change request, which can be used later to search for the record.

Intrado will provide Customer with up to three (3) 9-1-1 NET user accounts for each Customer PSAP. Intrado will assign each 9-1-1 NET tool user a unique user id, password, and a user account. User accounts, which may include a physical device (e.g. Intrado-issued token or card) to support two-factor authentication, may not be shared. Intrado will separately provide and configure 9-1-1 NET user accounts for each TSP.

Intrado will provide Customer and Customer's PSAPs user documentation including: User Guide, User Agreement, Order Form, and Internet Log-On Procedures.

2.2.1 9-1-1 NET Configurations

Intrado will work with Customer to determine and configure the appropriate data access profile for each user account.

Intrado will provide Customer with read-only access to Customer's MSAG records and TN records within the E9-1-1 Service Area for each Customer PSAP through 9-1-1 NET. Customer may directly submit TN record and MSAG record change requests to its analyst through 9-1-1 NET.

2.3 Data Management Services

Intrado has primary responsibility for each of the tasks listed in Table 3. Tasks for which the Customer, Customer's PSAPs, the county/municipal coordinators in Customer's E9-1-1 Service Area, or the TSP have partial responsibility for are also identified. Intrado will work with

Customer to mutually agree on process flows for data management services between Intrado, Customer's PSAPs, and the county/municipal coordinators. Any changes to the designated responsible Party will be mutually agreed on.

2.3.1 Address Corrections

Customer may submit TN address corrections to Intrado. Intrado will work with the identified TSP for correction/resolution of the subscriber's address.

2.3.2 MSAG Maintenance

Each Customer PSAP and municipal/county coordinators in each Customer PSAP's E9-1-1 Service Area will submit all MSAG change requests and updates through 9-1-1 NET. Customer may also submit TN change requests through 9-1-1 NET. Each Customer PSAP will provide Intrado with all additions and changes to ESNs and ELTs.

On receipt of Customer's MSAG Change Requests through 9-1-1 NET, Intrado will provide daily MSAG maintenance support, inclusive of inserts, changes, and deletes on current MSAGs and ESN/ELTs.

Special Projects such as readdressing, annexations, MSAG scrubs, and county-wide MSAG changes are considered 'MSAG Special Projects' and may require more than one business day. MSAG Special Projects that require more than 1,000 MSAG record changes are out of scope and may be addressed through a change order.

2.3.3 Error Correction Maintenance

Intrado will return all MSAG errors directly to the appropriate TSP for correction. Each TSP will be responsible for resubmitting an electronic SOI record to Intrado for final error correction when the record content must be changed to correct the error.

2.3.4 ESN/ELT Table Maintenance

Intrado will manage ESNs in the Intrado Data Management and ALI systems and the associated ELTs as provided by each Customer PSAP. This task consists of maintaining assigned ESNs and ELTs in system tables. Intrado will provide Customer with ESN/ELT information on request.

2.3.5 Wire Center Boundary Conflicts

Intrado will research wire center boundary conflicts that affect 9-1-1 call delivery. Intrado will work with the LEC in resolving these conflicts. Geographic porting (porting outside of current rate center) is not included in wire center overlay issues.

2.3.6 Database Maintenance/Activities

Intrado will correct or refer all correctable errors, MSAG updates, and ALI discrepancies within one (1) Business Day of receipt.

2.3.7 MSAG Distribution

On Customer request, Intrado will distribute an electronic copy of Customer E9-1-1 Service Area MSAG to agencies and personnel authorized by Customer, no more frequently than

monthly. With Customer approval, Intrado will distribute electronic daily MSAG updates (deltas) to the TSPs.

2.3.8 TN Extracts

On Customer request, Intrado will extract Customer's TN records according to specified criteria, for example by Community, within five (5) Business Days of receipt of Customer's written request (including email). TN record extracts may be requested in a text or Excel file format.

2.3.9 No Record Found/Misroute Investigation/Discrepant Address

Intrado will research and work with each TSP to resolve all NRF and ALI Discrepancy requests once they have been submitted through 9-1-1 NET. Intrado will investigate misroutes and refer the misroute to the applicable TSP if appropriate.

2.3.10 Database Reconciliation

For each TSP serving Customer's PSAPs, Intrado will offer one database extract to each TSP on an annual basis for the TSP to perform its own database reconciliation.

2.3.11 NPA Splits/Overlays

NPA splits or overlays are the responsibility of the TSP. Intrado will update databases and tables with revised NPA information provided by TSP. The TSP should provide at least three months advance written notice to Intrado to coordinate the necessary changes. Requests of less than three months are out of scope and will require a change order.

2.3.12 Local Number Portability (LNP) Services

Intrado will provide Local Number Portability (LNP) services to Customer and the TSPs in Customer's E9-1-1 Service Area in alignment with the NENA recommendations for LNP. It is each TSP's responsibility to fix its LNP errors. Intrado provides LNP reports daily to the TSPs.

2.3.12.1 Company ID

Intrado will validate service order activity for proper Company ID. Intrado will provide the Company ID in the ALI data stream.

2.3.12.2 Function Codes

Intrado will accept M ("Migrate") and U ("Unlock") function codes on service order activity. Intrado will age Migrated TN records based on time limits specified by Customer. Intrado will allow a Migrate to be changed to an Insert if requested by Customer

2.3.12.3 Database Fields

Intrado will provide fields in the TN database records to indicate whether the record is in a Locked or Unlocked status. LNP-related errors are also assigned error codes.

2.3.12.4 LNP Reports

Intrado will provide each TSP with the following LNP reports on a daily basis:

- Unlock exception report ("Stranded Unlocks")
- Migrate expired report

- Migrate received not unlocked report
- Migrate pending report
- Successfully migrated report

2.3.13 Intrado A9-1-1® Routing Selective Routing Database (SRDB) Updates

Intrado will provide and SRDB update for all records that have successfully passed data validation by Intrado's data management system. SRDB updates should be posted to the 9-1-1 Routing system within one business day following successful data validation.

2.3.14 Wireless, VoIP, and Telematics Support

Intrado's database management systems support both VoIP and wireless Phase I and Phase II E9-1-1 call processing. Intrado validates pANI shell records submitted by TSPs or their third party providers against the Intrado-maintained MSAG records, and uploads the pANI shell records into the ALI database systems. NENA Company ID is required on all pANI shell records.

Intrado will build and maintain the ALI Steering Table on the ALI systems. The ALI Steering Table is used by the ALI system to determine which MPC/GMLC/VPC to query for E9-1-1 location information. All wireless, VoIP, and Telematics E9-1-1 location updates to the ALI system are via the TIA/EIA/J-STD-036 E2 Interface.

Intrado will establish agreements with each Wireless, VoIP, and Telematics TSP (or their third party database providers) for access to Intrado's relevant systems. Wireless, VoIP and Telematics TSPs (or their third party database providers) are responsible for establishing and maintaining connectivity to these systems and bear all connectivity and support costs.

Intrado will help support E9-1-1 troubleshooting in production as well as pre-production live ALI testing from the host ALI perspective. The support Intrado provides includes (i) pulling log files, (ii) monitoring ALI bids from the PSAP, (iii) monitoring data traffic between ALI and a wireless or VoIP provider's MPC/GMLC/VPC, and (iv) verifying that the ALI Steering Tables are configured correctly.

2.4 Wireline ALI Steering

On execution of the necessary agreement, Intrado will establish communications for ALI to ALI steering with neighboring ALI Systems. ALI to ALI steering will be performed for wireline 9-1-1 calls only.

At Customer's direction, Intrado can support any of the following types of wireline ALI steering:

- Trunk steering, where the bid to an ALI system contains a unique trunk number to identify when a query should be steered to another ALI system.
- No Record Found (NRF) steering, where an ALI steering query is sent to another specified ALI system when there is an NRF in the ALI database.

Customer acknowledges that coordination will be required between Customer and each TSP in the assignment and on-going management of English Language Translations (ELTs) (ESN/ESSIDs). Without this coordination, the ELTs may not work properly.

Intrado will perform initial system configuration on each Intrado ALI system to set-up steering for Wireline TNs to/from each foreign ALI system. Intrado will perform an initial ALI steering table set-up and load, and be responsible for its ongoing maintenance.

Intrado will provide IP connectivity between each ALI system and each Customer ALI via existing IP connectivity, where possible. Intrado will work with Customer to complete pre-production testing of ALI steering with each foreign 9-1-1 Service Provider.

Intrado will provide production technical support and troubleshooting to Customer's PSAPs and to Customer for ALI steering related issues.

3. METRICS REPORT TOOL

Intrado will provide a web-based tool, Clear View, for metrics reporting.

3.1 Clear View Reporting Tool

Intrado will provide Customer with up to three Clear View reporting tool user accounts per Customer PSAP for access to A9-1-1 Services metrics, including A9-1-1 Routing and ALI Management reports. Clear View provides a number of breakout reports which can be queried based on a daily, weekly, or monthly basis. Customer may determine the distribution of these user accounts between Customer's administrative staff and Customer's PSAPs.

Intrado will assign each Clear View reporting tool user a unique user ID, password, and a secure ID token ("User Account"). User Accounts may not be shared. Intrado will work with Customer to determine and configure the appropriate data access profile for each user account. User accounts, which may include a physical security device (e.g. Intrado-issued token or card) to support two-factor authentication, may not be shared. Additional user accounts or replacement of a misplaced security device are subject to additional security device fees.

Intrado currently posts data updates to daily data sets by 9:00AM Mountain Time (MT), and updates to monthly data sets by the sixth (6th) business day of each month immediately following the reporting month. Customer will be able to access one (1) year of metrics data through the Clear View reporting tool. Customer metrics report requests older than one year are out of scope and subject to change order.

Intrado will provide support services for the Clear View reporting tool during Intrado Normal Business Hours, defined as Monday through Friday 8:00 AM to 5:00 PM Mountain Time, excluding Intrado holidays.

3.1.1 Clear View Reports for Location Data Management

Intrado will provide Customer with the following ALI Management metrics reports through the Clear View reporting tool.

- Primary Metrics Summary Reports
- Monthly TN Census Report
- Monthly ALI Retrieval Report
- Monthly ANI Failure Report
- System Performance Reports

- NRF Reports
- SOI Reports
- TSS Error Reports

4. TRAINING

Intrado will provide training for the Services to each Customer PSAP, county/municipal coordinators in the Customer E9-1-1 Service area, and each TSP.

The Customer is responsible for identifying the training attendees from each Customer PSAP, ensuring they attend the Intrado provided training, and any expenses incurred by Customer's training attendees.

Intrado will provide training materials and user documentation for all training sessions. Customer may reproduce and internally distribute copies of Intrado provided training materials as necessary to Customer and Customer PSAP personnel only.

Customer and Intrado will agree on a training schedule. Intrado requires notice of rescheduling at least ten Business Days in advance for onsite training and five Business Days in advance for remote training, or an additional fee may apply. Intrado may combine multiple topics and/or target attendees from multiple Customer groups for maximum efficiency.

Training will be "train-the-trainer" format, which will enable Customer PSAPs to train new employees. The Customer is responsible for training additional personnel at Customer's PSAPs, as necessary, or contracting with Intrado to provide additional training. Additional training is out of scope and will require a change order.

4.1.1 PSAP Administrators

Intrado will provide one on-site training session for Customer's PSAP administrators. This training is expected to last up to two (2) days. Customer may determine the number and type of employees attending the Intrado on-site training as long as the Customer provides an adequate training facility and workstations/computers for number of attendees. This training will focus on:

- Location Data Management flow and processes
- 9-1-1 NET
- Clear View reporting tool

4.2 TSP Information Sessions and Training for County/Municipal Coordinators

Intrado provides up to two (2) information sessions of up to 4 hours for TSPs who serve the Customer E9-1-1 Service Area via telephone conference call. Topics will include data exchange procedures, data processing procedures, 9-1-1 NET, reporting problems to Intrado, and escalation procedures, and other mutually agreed upon topics. The information session(s) should be completed prior to the first TSP migration to Intrado A9-1-1 the Services and must include attendance by the designated Intrado and Customer Project Leads.

Intrado will separately provide training on 9-1-1 NET to county/municipal coordinators. Training will be via telephone conference call and will last approximately two hours.



Intrado[®] A9-1-1 VIPER Service Guide for Great Migration Customers

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1. INTRODUCTION

Intrado's A9-1-1 VIPER Service (the "Service") provides an end-to-end 9-1-1 emergency call handling solution. A9-1-1 VIPER Services are provided to Customer as a full service turnkey offering with Intrado owning and operating the A9-1-1 VIPER Services equipment and hosting and managing core software at Intrado facilities. The Service includes:

- A9-1-1 VIPER hosted systems
- Power 911 hosted systems
- Power MIS hosted systems
- Map Viewer
- Power 911 workstations at the PSAP

2. SHARED SERVICES

Terms relating to facility requirements, system testing and migration, and support and escalation procedures are described in the A9-1-1 Shared Service Guide referenced in Customer's Service Order. These terms will apply to the A9-1-1 Services described herein. In addition, the glossary found in the A9-1-1 Shared Service guide will define certain capitalized terms used in this Service Guide.

3. A9-1-1 VIPER SERVICES OVERVIEW

The Service provides hosted call handling functionality over a system that includes VIPER, Power 911, and Power MIS equipment, paired with specific customer premise equipment (CPE) provided by Intrado, including Power 911 workstations installed at each Customer PSAP. Intrado will provide and maintain redundant, regionally diverse systems and facilities for A9-1-1 VIPER Services, including hosted VIPER and Power 911 servers.

4. GREAT MIGRATION CUSTOMERS

This A9-1-1 VIPER Service Guide only applies to Customers that have purchased the "Great Migration" package of services offered by Intrado.

5. ACRONYMS

The following acronyms may appear in this Services Guide:

Acronym	Term
ACD	Automatic Call Distribution
CCS	Customer Configuration System
CRM	Customer Relationship Management
DHCP	Dynamic Host Configuration Protocol

Acronym	Term
DNS	Domain Name Service
HTML	Hypertext Markup Language
HVAC	Heating Ventilation and Air Conditioning
LAN	Local Area Network
LCD	Liquid Crystal Display
LVR	Logging Voice Recorder
NEMA	National Electrical Manufacturers Association
NENA	National Emergency Number Association
NOC	Network Operations Center
QoS	Quality of Service
VIPER	Voice Over IP Emergency Response
WAN	Wide Area Network

6. RESPONSIBILITY MATRIX

The following matrix outlines the responsibilities of each party for the A9-1-1 VIPER Services. Where both parties have been listed, this Service Guide more specifically defines the responsibilities of each party.

Task	Responsibility
Project Implementation	
Project Management	Intrado
Project Plan for A9-1-1 Solution	Intrado
A9-1-1 VIPER Services System Architecture	Intrado
A9-1-1 VIPER Services Network Architecture	Intrado
Customer Facilities	Customer
Customer Facility Site Preparation (floor space, power, etc.)	Intrado
Customer Facility Project Survey for Intrado-provided PSAP Equipment	Intrado
Project Survey Analysis and Report	Intrado
Site Readiness as addressed in Project Survey	Customer

Task	Responsibility
Analysis and Report	
PSAP Data Collection, Configurations/Lists – Star Codes, Transfer, Contact List, etc.	Intrado/Customer
Intrado-provided PSAP Equipment – Provide, Stage, Install and Maintain at Customer Facility	Intrado
A9-1-1 VIPER Services Training	Intrado
Pre-production and End to End Testing	Intrado/Customer
Develop Migration plan and execute Migration Testing	Intrado/Customer
Production Turn-up	Intrado/Customer
Ongoing Responsibilities	
MIS Reporting	Intrado
System Monitoring	Intrado
System Maintenance	Intrado
System Upgrades	Intrado
Log storage and backups	Intrado
Problem Reporting	Intrado/Customer
Problem Triage and Resolution	Intrado/Customer
Single Point of Contact for Customer & TSP Data Issues	Intrado

Table 1: Responsibility Matrix

7. A9-1-1 VIPER SERVICES FEATURES

The Services will provide each Customer PSAP with the following features:

7.1 Scalable, IP-Based Solution

- The Services leverage Session Initiation Protocol (SIP) technology.
- A9-1-1 VIPER Services allow A9-1-1 PSAPs to:
 - Scale without a practical upper limit to system provisioning.
 - Move to a networked model that integrates data, voice, and NG9-1-1 traffic
 - Implement call queues to meet call taker distribution needs

7.2 Configurable Call Distribution and Integrated Automatic Call Distribution (ACD) Features

The Services provide a highly configurable layering of options and features for call distribution within each Customer PSAP and between Customer PSAPs as necessary for backup scenarios.

7.2.1.1 Ring Groups

The Services support Ring Groups, where calls are sent to all available workstations.

7.2.1.2 Multiple ACD Algorithms

The Services support Multiple ACD algorithms:

- Longest Idle: Presents next call to the agent least recently called by this queue
- Fewest Calls: Presents next call to the agent with fewest completed calls from this queue
- Round Robin: Calls presented to all agents in sequence

7.2.1.3 ACD Functionality

The ACD functionality in the Services provides multiple features:

- ACD Queue: Allows lines and trunks to be assigned to specific queues. Each agent can be a member of one or more ACD queues. An agent will receive a call from a queue when they are logged on and ready.
- Agent Priority: Allows a priority to be assigned to each agent in a queue.
- Line Priority: Allows priorities to be assigned to each line in a queue.
- Queue Recorded Announcement: A PSAP-recorded announcement can be played at intervals to callers waiting in a queue.
- Queue Wrap-up time: Allows a time interval to be configured to allow agents to complete tasks from a previous 9-1-1 call before a new call is presented.
- Private Call Park: Allows an agent to place a call in a 'on hold' state to take other calls in a queue and then return later to the parked call.
- Forced Connect: This feature can be enabled or disabled. When enabled, agents that are logged on and ready to accept calls are automatically connected to ACD calls and hear a zip tone as notification that they have been connected to a new call.

7.3 Power 911 Intelligent Workstations

The Services include Power 911 intelligent workstations (one per position) that provide agents with on-screen call control of emergency and administrative calls, with features that enhance call handling efficiency and consistency.

7.3.1.1 User Features

Power 911 workstations have a highly configurable ALI display, repeat ALI, and the ability to exchange pANI with the wireless call-back number based on the wireless TSP and class of service combinations.

Power 911 workstations also include the following user features:

- Integrated TTY via Baudot with pre-programmable messages, HCO/VCO, and optional buffered mode so that messages are delivered at one time rather than character by character.
- An Integrated Call Check Recorder allows calls to be recorded automatically or on-demand. Agents can play back recently completed calls within a configurable time period.
- Integrated Greeting Announcement: A customized greeting announcement can be automatically played when an agent answers calls.
- Intelligent Speed Dialing currently provides up to 1500 programmable speed dials and voice transfers between positions or to a third party.
- An Integrated Phone Book has no imposed limits on the number of contacts with configurable agent read/write access rights.
- Fully searchable Agency List to allow each Customer PSAP to manage and contact thousands of agencies.
- On-the-fly Multi-lingual support with language selected via drop down menu functions for the GUI text.
- Message board to support instant messaging between all signed-on Power 911 users.
- Power 911 allows profiles to be configured by workstation, agent, or role (e.g. call taker or dispatcher) to control features and content for each Customer PSAP.
- The legend of each button on the screen can be changed to match the language of the call taker or to identify a button operation in a more familiar way.
- The configurable text strings supports any language that can be represented by Unicode. These text strings are implemented during initial deployment using the Customer Configuration System tool. An Intrado technician must make requested changes using the tool.

7.3.1.2 Installation.

The Services include installation of intelligent workstations at each Customer PSAP with Power 911, Map Viewer, and Power MIS capabilities. All Power 911 workstations and associated equipment will be located on the call taking floor in each Customer facility and not in the equipment room.

7.3.1.3 Software and Equipment

Intrado will provide the following software and equipment for each Power 911 workstation, including the following:

- Power 911 modules:
 - Location Module – Displays ANI/ALI
 - Computer Telephony Module – Provides on-screen telephony. The computer workstation itself is the call taker's phone device, with call control operations performed via the workstation mouse and keyboard with the GUI (Graphical User Interface) providing visual feedback

- Contact Module – An integrated phonebook and contact list. Enables speed dials and transfers between positions or to a third party.
- Message Board Module – Enables instant text messaging between all signed on Power 911 users within the Customer PSAP. The Message Board is an inter-workstation text-based messaging capability. It is unrelated to external "Message Boards". See Section 8.1 for detail on panels displaying ACD activity/stats for an ACD call center.
- Lists Module – Provides multiple Call Lists and Queries, including active and abandoned calls, instant call queries and historical calls.
- Toolbar – Provides configurable on-click access to certain functions.
- Incident Manager Software – Provides Incident Detailing, premise information and standard operating procedures.
- Integrated Call Check Recorder
- Power MIS browser access
- Two (2) LCD standard monitors per position – brands as determined by Intrado. Additional monitors, per application, will be supported at Customer request. Touch screen monitors are not currently supported.
- A Handset
 - Customer PSAP may elect to provide headsets for selected positions. Any headset used on the system must be approved by Intrado for compatibility. A current list of approved headsets is available on request. An updated list should be consulted at time of Customer agreement.
 - Each Power 911 position will be adjusted to the electrical characteristics of a given handset or headset model. As such, in PSAPs where multiple models are used, Customer PSAP will be responsible for ensuring the handset or headsets are only used at the positions specifically adjusted for those models.
- Intrado will provide, install, and maintain one current model color laser printer at each Customer PSAP. Customer will be responsible for ink, toner and paper.

7.3.1.4 PSAP Management Gateway, Profile.

Customer will not have access to the PSAP Management Gateway provided with the Service. For each Customer PSAP, the Power 911 workstation configuration will be set up as a "square" system, meaning that all positions will be presented with the same profile, including screen layout, agency access, transfer profiles, etc.

7.3.1.5 Defective Equipment

Intrado will replace defective equipment with spares that are stored either on site or from centralized storage locations that provide for same day or next day delivery.

7.4 Power MIS

Power MIS provides emergency response center managers and system administrators with information on the volume of calls, performance of agents, and Customer PSAP statistics. Power MIS is a browser-based application that uses information from a Power 911 database to generate a wide range of statistical reports.

7.4.1.1 Features

Power MIS Features include:

- Generating reports that can be used to evaluate the overall performance of a PSAP or the performance of individual call-takers.
- Retrieving critical information such as the time a call was received, how long it took for a call to be answered, questions that were asked by the operator, the answers the caller provided, and the agencies to which a call was transferred.
- Performing detailed query calls and incident-related activities of one or more PSAPs.
- Scheduling reports for automatic generation at specific times and frequencies.
- Saving report settings for future reuse.
- Generating reports in Portable Document Format (PDF), HTML, and or XML formats, with optional customizable titles, which can then be saved, viewed on screen (via included PDF reader or browser client as appropriate), and/or printed.

7.4.1.2 Metrics, Data, and Reports

Through the Power MIS browser-based tool, Customer can access metrics reports on its PSAP activity on a per-PSAP basis, and also aggregated PSAP reports .

Intrado will store Power MIS data according to the following schedule:

- Pre-production testing, Power MIS data will be stored for a minimum of sixty (60) days.
- Post-production turn up, Power MIS data will be stored for three years.

Power MIS provides the following reports:

Power MIS Reports	
<ul style="list-style-type: none"> ▪ Call Details Report ▪ Call Summary Reports (various) ▪ Call Volume by ACD, by Ring Group, by Range of Answer Time, by Hour ▪ Call Transfer Volume ▪ Call Type Volume by Line, by Line Group, by Trunk, by Trunk Group ▪ Call Volume (%) by Period - by Hour, by Month, by Time Range ▪ Incorrect ALI Detail ▪ Incorrect ALI Summary ▪ Long Distance Call Summary 	<ul style="list-style-type: none"> ▪ Manual ALI Lookup Summary. (This can be disabled as a configurable item in Power 911. If disabled the feature button does not appear on the GUI.) ▪ Top 50 ANI Summary ▪ ALI Retransmit (RTX) Statistics per Call Taker ▪ Call Routing Statistic per Period ▪ Call Statistics by Call Taker, by Call Taker Group, by Day of the Week, by ESN, by Week ▪ Call Time Statistics per Call Taker ▪ Total Call Statistics per Month ▪ Call Taker Statistics Summary/Detail

Note: Ad hoc reports are not currently supported

7.5 Map Viewer

Intrado will provide each Customer PSAP workstation with a dedicated public safety map providing automatic display and management of calls.

- Map Viewer allows agency personnel to locate callers and direct emergency responses quickly and accurately.
- Map viewer provides enhanced support of Wireless E9-1-1 calls.
- Intrado provides and maintains map viewer servers at Intrado or Customer facilities, as Intrado determines most appropriate.
- Certain features in Map Viewer may impose specific GIS data requirements to activate them.

8. A9-1-1 VIPER SERVICES RESPONSIBILITIES

8.1 A9-1-1 VIPER Services Configuration

Intrado Responsibilities: Intrado will support comprehensive system configuration in conjunction with System Administrator Training and the use of the Customer Configuration System (CCS).

Customer Configuration System (CCS)

CCS is designed to understand business practices and call flows and to develop Customer understanding by working with the Customer PSAP to configure its own Power 911 system. Completed 9-1-1 configuration will be uploaded as part of Staging; with one day of Administrator training. ACD design session –if used, is conducted at the same time as the CCS training and encompasses one additional day of Administrator training.

The CCS is currently a DVD which includes Power 9-1-1 Admin and User Guides, ACD configuration information (used for ACD sites), VMware Player, CCS Virtual Machine, and instructions on how to install the VMware player and CCS Virtual Machine. This DVD may be used by Customer on its own PCs to create the configuration for its Power 9-1-1 workstations that can be later used in staging.

Once installed, Intrado can then input the desired configuration in the virtual environment and then export the saved configuration file in a format that can be imported into the production environment.

As an output of CCS, Intrado will configure the A9-1-1 VIPER Services based on each Customer's preference for distributing A9-1-1 voice calls:

- Intrado will configure ACD if the Customer requests to distribute 9-1-1 voice calls based on the longest idle time, fewest completed calls or round-robin. Customers who desire to configure ACD must purchase the Power Monitor Display as an Optional Service (see section 8.5.2).
- Alternately, Intrado will configure Ring Groups if the Customer PSAP requests to distribute 9-1-1 voice calls to all available call takers.

- Each Ring Group or an ACD queue can be configured with an alternate destination that is either another ring group or an ACD queue (rollover tier) for various situations. An agent can be a member of one or more ACD queues; a workstation can be a member of one or more Ring Groups.

Customer Responsibilities: Customer will provide Intrado with a complete list of configurations for each Customer PSAP. These PSAP configurations lists include:

- Power 911 profile configurations, including screen layout, agency access, transfer profiles, etc.
- Current ALI and NRF response formats

Customer will provide Intrado with the call distribution configuration requested for each Customer PSAP. These call distribution configuration lists include

- Ring Group or ACD preferences
- Rollover tiers

8.2 Intrado-Provided PSAP Equipment

Intrado will provide and install PSAP equipment, including Power 911 workstations, backroom servers, gateways, peripheral hardware, and routers/switches to enable the Services.

Project Survey

Intrado will conduct a Project Survey used to collect Customer site data in accordance with two principles: 1) collecting data from site elements (both physical and operational) that are in place at the time of the survey and 2) new elements that will be used within the scope of the project. Based on the Output of the Project Survey and Analysis Report, Intrado will work with the Customer to determine the appropriate location for the Intrado–provided equipment.

Intrado will conduct a project survey at each Customer PSAP. During the project visit, Intrado's engineer will assess the Customer PSAP compliance with the A9-1-1 VIPER Services facility requirements and will consult with Customer on alternatives and any necessary site changes. Following the project survey, Intrado will provide Customer with a Site Requirements Survey Report which specifies any site remediation requirements.

Connectivity

Intrado will provide, install and maintain new LAN connectivity within each Customer PSAP for interconnectivity between the Power 911 workstations for delivery of the A9-1-1 Routing Solution. Interconnectivity between the Intrado-provided LAN and the Customer's existing LAN and/or the public internet is not currently supported.

Intrado will provide and install all cabling to interconnect between Power 911 workstation and equipment room components.

Intrado will engineer the A9-1-1 VIPER Services to interconnect with auxiliary equipment, such as CAD and CDR ports. The CAD and CDR serial ports will be located on an Intrado provided workstation to be located at the Customer PSAP, typically in the backroom. The CAD interface is the industry standard RS232C serial interface specification and follows NENA Standard NENA 04-001 section 3.4.

8.3 Interconnectivity with Third Party Vendor Systems

Intrado Responsibilities: When installation of third party vendor systems requires coordination with Intrado technicians, Intrado will make all reasonable efforts to work with the Customer to schedule a mutually agreeable time to complete the work. Intrado will not provide, install, maintain or support cabling to connect any components provided by third party vendors.

Interfaces may include:

- The CAD and CDR serial ports will be located on an Intrado provided workstation to be located at the Customer PSAP, typically in the backroom.
- Standard headset sharing analog interface at each work station
- Standard analog recording interface at each work station

Customer Responsibilities: During the installation of the Intrado-provided PSAP equipment, Customer will make all reasonable effort to have onsite during the installation an authorized third party vendor technician whose equipment will interconnect with the Intrado equipment.

If Customer requires connectivity to administrative lines via a third party PBX, Customer will ensure that a PBX technician is available to work with Intrado to make sure that all the phones work together and configure the PBX to interface with the Intrado-provided equipment .

Customer will be responsible for working with its CAD vendor to implement any programming changes required in the CAD system.

8.4 Customer PSAP Training

Intrado Responsibility: Intrado will provide on-site training for PSAP Call Takers and Administrators. Training will be “train-the-trainer” format.

Customer Responsibility: Customer will provide facilities for each on-site training session. On-site training will be scheduled after the Power 911 equipment has been installed and configured at the designated training location.

Customer will be responsible for identifying the Customer training attendees and ensuring they attend the Intrado-provided training. Customer will provide Intrado with a complete list of attendees for each Intrado training session and their positions a minimum of five business days prior to the start date for each training session. Each Customer PSAP will be responsible for training additional personnel within their organizations, as necessary, unless Optional Training services are ordered by Customer from Intrado. Optional Training services may include End User or Administrator training and is priced per day for a minimum of one class per day. Optional training may cover training on additional products purchased such as Power LVR, or training support after train the trainer training is complete.

Training class names and numbers include:

- 960780 – Administrator Training
- 960800 – End User Training

PSAP Call Takers

Intrado Responsibility: Intrado will provide either end-user training or train-the-trainer training for each unique Customer configuration, as follows:

- Train the Trainer - one on-site training session for up to eight Customer Power 911 call takers/ dispatchers with a maximum of 2 people per workstation. This training is expected to last for two full days (6 training hours per day).
- End User Training - in lieu of train the trainer training, Intrado can provide all End User Training. Training is provided to a maximum of eight Customer call takers/dispatchers, per training session, with a maximum of two training sessions per day. One workstation for each two students is required. Additional Optional Training days may be purchased to accommodate all call taker/dispatchers.

PSAP Administrators

Intrado Responsibility: Intrado will provide one on-site training session for Customer PSAP administrators. This training is expected to last for two full days (6 training hours per day). Customer may determine the number and type of employees attending the Intrado on-site training as long as the Customer provides an adequate training facility and workstations/ computers for number of attendees. One additional day of Administrator training is provided to support the cutover. In addition to the A9-1-1 VIPER Services training topics, this training will focus on:

- Map Viewer
- Power 911
- Power MIS

8.5 Optional A9-1-1 VIPER Services

8.5.1 Power LVR

As an Optional Service, Intrado will provide a premises-based logging voice recorder and replay client. The Power LVR (Logging Voice Recorder) server will passively tap each position and record the composite audio (9-1-1 and admin line calls and optionally radio traffic).

Power LVR provides the capabilities to:

- Capture and record audio traffic with date and time stamps, as well as other unique identifiers that allow users to easily retrieve specific recordings to determine what was said by whom and to recreate a series of events
- Centrally store recordings for immediate access
- Archive recordings for long-term storage and playback
- Create and maintain a comprehensive catalog database of recordings
- Permit authorized users to easily search for and play back recordings
- Permit live monitoring of channel audio by authorized users
- Prevent unauthorized access, modification, monitoring, and playback, through the use of a comprehensive security mechanism

If Power LVR is purchased, the onsite training sessions will be expanded in length to include training on Power LVR.

The Power LVR option will be more expensive if not purchased and deployed concurrently with A9-1-1 VIPER Services.

8.5.2 Power Monitor Display

As an Optional Service, Intrado will provide and install a Power Monitor display at the Customer PSAP. Customer PSAPs who desire to configure VIPER ACD per Section 7.2 must also opt for at least one (1) Power Monitor display per Customer PSAP.

Power Monitor provides real time Agent and ACD Queue status as well as summary status of all queue information for all 9-1-1 calls in process by the Customer PSAP.

Pricing for Power Monitor covers the server, display, support and maintenance services.

For Customer PSAPs that opt for Power Monitor, the onsite training sessions will be expanded in length to include training on Power Monitor.

The Power Monitor option will be more expensive if not purchased and deployed concurrently with A9-1-1 VIPER Services.

8.5.3 Professional Services

Intrado's A9-1-1 VIPER Services allows Customer to request that Intrado make normal operational changes to the Customer PSAP Configuration data after the deployment phase. Examples of these changes include managing user accounts, speed dial lists, and pre-canned messages for TTY. These changes are included in the A9-1-1 VIPER Services.

Intrado can also provide additional, out of scope professional services to Customer at an additional fee for changes made after the deployment phase to the Customer PSAP for exceptional reasons, including:

- Changes required from system expansion
- Changes required from the addition of new products or services
- Customer PSAP consolidation
- Changes or rebuild required as a result of acts of God or operator error



Intrado[®] A9-1-1[®] Routing Service Guide

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intrado[®]

1. INTRODUCTION

A9-1-1® Routing Service (“Service”) is a fully managed solution offering emergency call delivery over an Internet Protocol (IP) network. The Service includes the following:

- **Intrado’s ESInet** provides a multi-layer redundant IP network architecture for high system availability.
- **A9-1-1 Routing** provides routing of 9-1-1 calls from both traditional and next generation voice networks.

2. SHARED SERVICES

Terms relating to facility requirements, system testing and migration, and support and escalation procedures are described in the A9-1-1 Shared Service Guide referenced in Customer’s Service Order. These terms will apply to the A9-1-1 Services described herein. In addition, the glossary found in the A9-1-1 Shared Service guide will define certain capitalized terms used in this Service Guide.

3. RESPONSIBILITY MATRIX

The following matrix outlines the typical responsibilities of each party for the implementation and ongoing provision of the Services. Where both parties have been listed, additional detail on the responsibilities of each party is included in the Sections below.

Task	Responsibility
Project Implementation	
Project Management	Intrado/Customer
TSP Communications	Intrado
TSP Integration Architecture	Intrado
Develop Intrado Methods and Procedures	Intrado
A9-1-1 Services System Architecture	Intrado
PSAP Facilities	Customer
PSAP Facility Site Preparation (floor space, power, etc.)	Customer
PSAP Facility Site Survey	Intrado
PSAP Configurations/Lists - Routing, Transfer, etc.	Customer/Intrado
A9-1-1 Routing Selective Router Database (SRDB) Data	Intrado

Task	Responsibility
Non-Intrado PSAP Equipment Note: This may be legacy equipment or new equipment purchased under another Customer agreement and or non-Intrado PSAP equipment, such as CAD system, voice recording equipment, and radio system; if applicable.	Customer
Training on A9-1-1 Routing Services	Intrado
End to End Testing of A9-1-1 Routing Services Prior to Production	Intrado/Customer
Final Data Load into SRDB	Intrado/TSP
Develop Plan and Execute Migration Testing	Intrado/Customer
Production Turn-up of A9-1-1 Routing Services	Intrado/Customer
Ongoing Responsibilities	
A9-1-1 Routing Application and System Upgrades	Intrado
A9-1-1 Routing Log storage and Backups	Intrado
A9-1-1 Routing Metrics	Intrado
A9-1-1 Routing Network and System Maintenance	Intrado
A9-1-1 Routing Network and System Monitoring	Intrado
Maintain Intrado Methods and Procedures	Intrado
Problem Reporting, Triage and Resolution	Intrado/Customer
TSP Communications	Intrado

Table 1: Responsibility Matrix

4. PROJECT IMPLEMENTATION

4.1 Overview

Intrado's Solution Delivery approach to plan, configure, network engineer, implement, test, document, train, and support Intrado Advanced 9-1-1 Service follows Intrado's time-proven Solution Delivery methodology. The lifecycle begins with solution definition and architecture activities. During these initial phases, the joint Customer and Intrado team members verify

system application and implementation requirements, refine the solution architecture, and finalize the plan for solution deployment. Following definition and architecture phases, the Intrado team orders, installs, configures, tests, and trains users on Customer-facing solution components as part of solution integration and deployment effort. Following successful deployment, the maintenance phase begins. The primary goal of the lifecycle methodology is that the project aligns with overall Customer expectations, and is tailored to fit the needs of Customer. The Project Plan phases are described below.

Solution Definition

The first phase in the solution lifecycle is the Solution Definition phase, which begins with the kickoff and alignment process and is critical to the overall success of the 9-1-1 initiative. During this process, key members of the joint project team unite to identify roles, responsibilities, critical success factors, project challenges, elaborate on specific strategies and project options, confirm E9-1-1 project scope, and finalize plans to expedite solution delivery plans and resources. The proposed solution is reviewed in order to align each primary stakeholder with a common vision and strategy for unified team design and planning.

The Intrado team conducts current systems, processes, and site studies to more clearly understand the current system and user environment, allowing the Team to plan the most effective migration path to the new system.

Solution Architecture

During the Solution Architecture phase, the detailed solution design is finalized based on confirmed requirements. During this phase, the Intrado team analyzes the current systems, operations, and operational procedures, identifies the human factors needs, considers implementation options, and with the Customer, commits the detailed solution design and implementation schedule.

Stakeholder participation to identify processes and standard operating impact is critical in this process to support a successful integration of the new system. Current procedures, connectivity, and routing policies are examined so that the appropriate practices are carried forward to the new system environment. Examples of important areas considered include load balancing philosophies and default routing rules.

Initial planning for connectivity from the telephone service providers to the Points of Interconnection (POI) also begins in the architecture phase. Key solution architecture planning activities include:

- Detailed solution design and schematics (onsite, site to site, site to Intrado, firewalls, routers, etc.)
- IP specifications
- Telephone service provider connectivity specifications
- Physical requirements (e.g., equipment room design, floor loading)
- Call transfer requirements

- Training plan and schedule
- Refined project plan and timeline

Solution Integration

During the Solution Integration phase, the components of the solution, including processes, applications, servers, network components, and data flow, are engineered and readied for deployment. All network, regional, and customer premises components are delivered, and the equipment rooms and other facilities are readied.

Coordination with wireline, wireless, and VoIP telephone service providers is an essential part of this stage to plan for the A9-1-1 Services management transition. Telephone service providers receive all necessary information and detail to obtain connectivity to the Intrado systems and the service provider's connectivity to the POIs is engineered and ordered.

Working closely with the Customer and stakeholder groups, the project team designs customized provisioning plans (including incoming trunk route plans, bridge lists, and dialing plans). Additionally, the documentation and training developers customize the user and process documents and various training courseware, if needed, to meet the needs of the Customer.

Solution Deployment

During the Solution Deployment phase, all network components and equipment connectivity is validated and acceptance tests are performed, metrics tracking, reporting is initiated, and training is provided. After complete non-live call testing, the system begins supporting live 9-1-1 traffic.

In preparation for deployment and in partnership with the Customer, the Intrado Project Manager finalizes the cutover plan, including procedures for notification concerning schedule specifics.

Prior to the commencement of cutover, the project team members will hold a cutover meeting with the Customer and the telephone service providers. The purpose of this meeting is to discuss the progress of activities and the cutover readiness.

PSAP training is provided in accordance with the detailed training rollout plans. The system will then undergo a system acceptance test and quality walkthrough. Once complete, and in agreement with the Customer, a live-traffic cutover will then commence. Once live traffic has moved to the system, the maintenance period begins.

Solution Maintenance

The Solution Maintenance phase begins once live traffic is transferred onto any part of the system. During this phase, Intrado provides ongoing tiered support services to monitor service level performance, manage help desk requests, escalate support procedures, and support the Customer to reach the highest level of operational excellence. The solution support team is in place to receive, analyze, and rectify problems and information requests.

4.2 Intrado Project Support

Intrado designates a project manager to act as Intrado's project lead and the primary interface with the Customer's appointed contact for project collaboration. Project collaboration includes:

- Coordination of project kickoff meeting with Customer
- Coordination with Customer for implementation planning and design and requirements definition
- Identification and communication of key milestone dates and events for the implementation timeline
- Program tracking of the master project plan and task management of the project implementation
- Coordinate and manage all necessary Intrado resources to complete the Services deployment activities
- Work with each Customer PSAP to develop a detailed project plan that includes milestones for each project phase

Note: This plan is refined over the course of the project as mutually agreed by both parties.

- Appoint a Customer Program Manager
 - Note: Following the deployment phase completion, the Customer Program Manager will serve as Customer's primary point of contact for issues resolution, escalations, enhancement requests, and planning.
- Provide Customer with an emergency support 24x7x365 contact number, a routine support contact list, and an escalation contact list.

Note: It is the responsibility of each party to update and publish these lists on a regular basis.

4.3 Customer Project Support

Customer designates a 9-1-1 operations contact to act as the Customer's project lead for the duration of the project. The Customer's project lead works with the Intrado project lead to:

- Assist with the coordination of the project kickoff meeting with Intrado and Customer technical resources
 - Coordinate Customer's technical resources for implementation planning and design and requirements definition
 - Reporting and verify problems related to the project
 - Facilitate ongoing communications with Intrado
 - Assign appropriate Information Technology (IT) Personnel and experienced call takers at each PSAP who understand the overall impact of the transition of the 9-1-1 systems and can assist in the overall impact planning for transition activities such as testing and migration.

Note: This activity may include Intrado and the Customer's appropriate technical and operational groups to assure a solid understanding of the network architecture, data exchange

procedures, PSAP needs, standard operational procedures, and services as designed for the Customer.

4.4 TSP Communications and Trunk Migration Plan

Intrado works with the Customer to develop a joint communication to each PSAP, government organization, and appropriate TSPs outlining the scope of services to be implemented, a high-level implementation schedule, and key contact information for each entity. Intrado distributes the communication on behalf of the Customer.

Intrado takes responsibility for:

- Facilitating the establishment of TSP communication guidelines with Customer
- Adhering to these guidelines for the project implementation and service duration
- Working with the Customer to determine and agree on the strategy for all TSP trunk migrations
- Establishing expectations with each TSP
- Managing communication to the TSP for items related to A9-1-1 Services on behalf of the Customer.
- Escalating to Customer, as appropriate, regarding TSP initiatives; requesting Customer intervention when necessary.

5. A9-1-1 ROUTING – SERVICE DESCRIPTION

The system supporting the A9-1-1 Routing Services is comprised of redundant, regionally diverse facilities that process an inbound emergency call, determine the correct PSAP according to the ESN and pre-configured routing rules, and send the call to the CPE of Customer's PSAP.

5.1 A9-1-1 Routing - Call Flow

- 1) Call Flow 1 will be followed where a TSP has 9-1-1 trunks terminated at an A9-1-1 Routing point of interconnection ("POI").
- 2) 9-1-1 call is made; call sent to TSP switch
- 3) TSP switch sends call to Intrado Regional Gateway via Intrado POI
- 4) Intrado Regional Gateway sends call to Service, which determines call routing instructions
- 5) Service routes call to appropriate Customer PSAP CPE
- 6) PSAP CPE delivers call to PSAP workstation

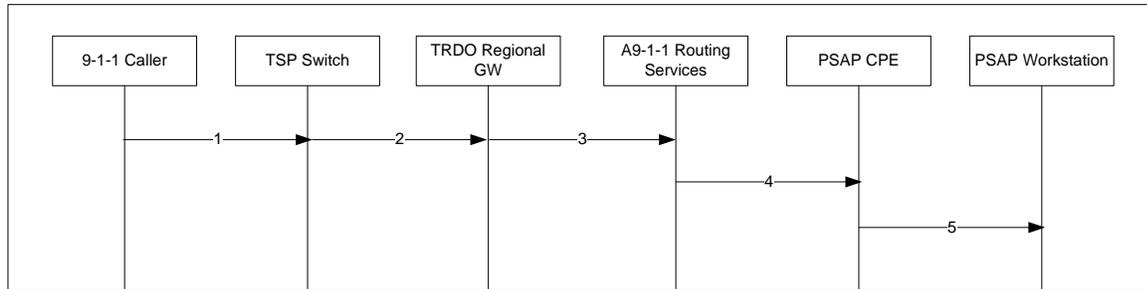


Figure 1: High Level Call Flow

5.2 A9-1-1 Routing Rules

The Service will process all inbound emergency calls based on the configured routing rules for the PSAP. The A9-1-1 Routing rules allow:

- Management of wireline, wireless, VoIP, and Telematics call types
- Identification of each end office, TSP or MSC trunk for either selective routing or trunk-only routing, based on:
 - Selective Routing: Calling party ANI, ANI match to an ESN and an Electronic Switching System Identification (“ESSID”), or PANI used to look up ANI for WRLS and VoIP calls
 - Trunk Only Routing: Incoming End Office trunk is assigned an ESN/ESSID which relates to a specific ingress trunk group.

Intrado will coordinate the data provisioning with each TSP and confirm information to support the signal provisioning for trunks incoming from the End Office or MSC to Intrado, including the following data:

- Incoming signal type
- Call type
- Implied numbering plan administration (“NPA”), if applicable
- PANI administration, if applicable

5.3 TSP Trunk Migration

Intrado works with the ILEC to place the PSAP in-service via the ILEC’s legacy selective router for all TSP traffic and in parallel works with each TSP to plan for and execute the migration of its 9-1-1 call traffic to the Intrado A9-1-1 Routing Service. Once the PSAP has been placed in-service on A9-1-1 Routing via aggregated traffic from the legacy selective router, each TSP will be requested to establish connectivity from each TSP end office (EO) and MSCs serving Customer’s PSAPs to at least two (2) A9-1-1 Routing POIs. Each TSP will be responsible for the cost of ordering and maintaining required circuits to connect to the POIs such that each EO has routes to at least two POIs for diversity and redundancy. Single POI connectivity from any End Office is not warranted under this contract.

Each TSP may connect to Intrado’s A9-1-1 Routing system using any of the following interfaces:

9-1-1 Call Signaling Type	Call From TSP
VoIP 9-1-1	X
SIP (NNI Specification)	X
PRI/NI-2 (wireline, NCAS)	X
Analog CAMA I+7 (I always = 0)	X
DS1 CAMA I+7 (I always = 0)	X
DS1 CAMA 7 (No I digit)	X
SS7 Wireline/NCAS (10 digits)	X

Note: An interim configuration may be required to allow TSP trunk migrations to be performed on a trunk-by-trunk basis to the A9-1-1 Routing system.

If a TSP requires an interface not included in the table above, Intrado will use commercially reasonable efforts to include these additional interfaces.

Intrado is not responsible for any TSP charges for 9-1-1 trunks from TSP End Offices to the A9-1-1 Routing system.

Customer will be responsible for any TSP charges related to TSP presenting the 9-1-1 call (voice and ANI) data to the A9-1-1 Routing network. Customer will also be responsible for any charges from other 9-1-1 service providers related to 9-1-1 call transfer to PSAPs on foreign SRs, or any other services outside the scope of this Service Guide. If Customer is currently obligated to pay for TSP TN data (SOI files) and/or End Office trunks, this agreement does not eliminate that obligation.

5.4 Voice and Data Transfer and Bridge Capabilities

The Service supports the following flexible transfer and bridge capabilities:

- Selective Transfer/Bridge: The ability for the call taker to transfer an incoming 9-1-1 call to another agency by pressing a button labeled with the type of agency; e.g., "Fire," on the PSAP call-handling equipment.
- Fixed Transfer/Bridge: The ability for the call taker to use a single button on the call taker's display and transfer unit to complete either a transfer or three-way conference.
- Manual Transfer/Bridge: The ability for the call taker to complete a manual transfer.

Interconnection with the legacy 9-1-1 service provider's SRs and ALI systems will require the cooperation of such service provider. The Services assumed that all transfers to secondary PSAPs are currently, and will continue to be, conducted via PSTN without ANI or ALI. Inclusion

of secondary PSAPs onto A9-1-1 Routing Services (which would enable full ANI and ALI transfer to them) is out of scope and subject to change order.

If the legacy 9-1-1 service provider does not support the inter-ALI connectivity, an alternate method of call transfer processing will be required. The alternative to inter-ALI connectivity is for both Intrado and the legacy service provider to provision TN data into their respective ALI systems. This method is also known as 'dual loading'. In using this method, the call transfer is performed (including ANI) via the interconnection between the legacy service provider and Intrado Selective Routing solutions. ALI is provided by the 9-1-1 Service Provider for the receiving PSAP.

5.5 Implementing Configurable PSAP Attributes

Intrado will provision the PSAP configurable attributes as requested by Customer. The Customer identifies which personnel at each of Customer's PSAPs are authorized to request PSAP configurable attribute changes.

Intrado will configure a minimum of the following PSAP configurable attributes for each of Customer's PSAPs.

- PSAP Trunks:
 - Numbering Plan Digit (NPD) assignment (if appropriate)
 - Trunk assignments by call type (wireline, wireless, VoIP, or any combination)
 - Add or delete trunk members
- Route Lists/Routing Rules:
 - Primary and alternate routes
 - Selective transfer star code destinations (i.e. *11 thru*19) for first responders, Police, Fire, and EMS
 - Fixed bridge lists (i.e. *20 thru *49) such as poison control or neighboring PSAPs
 - PSAP abandonment routing rules

PSAP preferred routing instructions apply to the following:

- PSAP Abandonment Routing: Specific routing instructions to be applied if the PSAP must evacuate the facility.
- PSAP Alternate Routing: Specific routing instructions to be applied as alternate location for routing if all lines to the primary PSAP are busy, or the primary PSAP is closed for a period of time. Multiple, prioritized alternate route destinations are supported.
- PSAP Default Routing: Specific default routing instructions to be applied for each incoming trunk group. 9-1-1 calls are routed to the default PSAP if an ANI failure occurs, unintelligible digits received from end office, or other rare causes.
- PSAP Destinations and Route Lists: PSAP is able to specify a unique route list for each routing rule. These route lists allow for designation of a primary target for call routing and includes numerous prioritized alternate destinations such as:
 - PSAP served by A9-1-1 Routing
 - PSAP served by a non-Intrado selective routing service

- PSTN number
- Busy
- Treatment message
- Tone
- PSAP Trunk Group Management: Each incoming trunk group is individually designated to carry a particular call type and/or combination of call types (wireless, wireline, VoIP, Telematics). The PSAP has the ability to change these call type designations.

Note: All PSAP data is gathered during the Definition Phase of the project.

5.6 Modifying Configurable PSAP Attributes

Following production turn-up of the Services, Intrado will complete PSAP configurable attribute changes within five (5) Business Days of receipt of a written request (including email) from Customer or authorized Customer PSAP personnel.

All requests must be submitted to the Intrado Project Manager for review and implementation or, following Production Turn-up, to the Intrado Program Manager. The five (5) Business Day timeline may be exceeded if the Intrado Project/Program Manager determines that further discussion is needed with PSAP before implementing the changes, for example where the change is technically unadvisable or unfeasible.

For PSAP abandonment, Customer may contact the Intrado Emergency Call Relay Center (ECRC) to engage the configured PSAP Abandonment Rules. The Intrado ECRC will engage the PSAP Abandonment Rules within fifteen (15) minutes of receiving a PSAP abandonment request.

5.7 A9-1-1 PSAP Management Portal

The A9-1-1 PSAP Management Portal (PMP) is a web-based tool that will provide Customer and Customer's PSAP administrators view only access to A9-1-1 Routing configurations and call activity. The PMP allows authorized users to view A9-1-1 Routing configurations for each PSAP, including call transfers, routing, and other configurations. In addition, the user may research Call Detail Records for call activity based on a specific date range.

Currently, the A9-1-1 PSAP Management portal is accessed through Intrado 9-1-1 NET® accounts.

5.8 Split Rate Center Scenarios

Wireline end offices where Customer PSAPs receive Intrado's A9-1-1 Routing service and some end users are served by another entity's 9-1-1 routing service are considered to be "split end offices" or "split wire centers"). The following considerations must be finalized prior to implementation of Services.

- TSP or ILEC may be requested to "sort" the 9-1-1 call traffic at the split wire center (end office) within a rate center, and directly route all 9-1-1 traffic that is destined for the Customer from the split wire center to the Intrado A9-1-1 Routing network where the

TSP or ILEC have the predominate number of subscribers in the rate center for selective routing

Note: Such capability is possible where TSPs or ILEC integrate the MSAG into the front-end service provisioning process and set appropriate attributes on each line at the end office to effectuate routing over the proper trunk group to the proper 9-1-1 routing service.

- Where Intrado has the predominate number of subscribers in a given selective routing area, Intrado may act as the aggregator of the traffic and deliver the traffic back to the TSP or ILEC.
- Intrado will work cooperatively with the TSP and the LEC to establish call routing and call handoff arrangements.
- Intrado will work with TSPs and LECs to resolve wire center overlap issues.

Note: Intrado's A9-1-1 Routing implementation depends on TSP and LEC cooperation to resolve

6. REPORTING TOOLS

Intrado will provide a web-based tool, Clear View, for metrics reporting.

6.1 Clear View Reporting Tool

Intrado will provide Customer with up to three (3) Clear View Reporting tool user accounts per Customer PSAP for access to A9-1-1 Routing Services metrics. Clear View provides a number of breakout reports which can be queried based on a daily, weekly, or monthly basis. Customer may determine the distribution of these user accounts between Customer's administrative staff and Customer's PSAPs.

Intrado will assign each Clear View reporting tool user a unique user ID, password, and a Secure ID token ("User Account"). User Accounts may not be shared. Intrado will work with Customer to determine and configure the appropriate data access profile for each user account. User accounts, which may include a physical security device (e.g. Intrado-issued token or card) to support two-factor authentication, may not be shared. Additional User Accounts or replacement of a misplaced security device are subject to additional Security Device fees.

Intrado currently posts data updates to daily data sets by 9:00AM Mountain Time (MT), and updates to monthly data sets by the sixth (6th) business day of each month immediately following the reporting month. Customer will be able to access one (1) year of metrics data through the Clear View Reporting tool. Customer metrics report requests older than one year are out of scope and subject to change order..

Intrado will provide support services for the Clear View reporting tool during Intrado Normal Business Hours, defined as Monday through Friday 8:00 AM to 5:00 PM Mountain Time, excluding Intrado holidays.

6.2 Reports

The following are reports for the Services provided with the Clear View tool. Additionally, for any specific call, call detail is available through the Intrado A9-1-1 PSAP Management Portal.

- ESN Reports:
 - Primary Routing Report – ESNs that route to your PSAP as Primary
 - Alternate Routing Report – ESNs where Customer’s PSAP serves as the alternate for another PSAP
 - Default Routing Report – End Offices that use Customer’s PSAP as the default route for calls. Includes ESN, TSP, CLLI, and ESCO.
 - Abandoned Routing Report – abandonment Route where Customer’s PSAP serves as the abandonment route for another PSAP
- Clear View call processing and call status reports include:
 - Event Count Reports per Hour– provides metrics for total calls in which Customer’s PSAP participated by hour for a day, week or month
 - Event Count Report by Trunk Group – provides metrics for total calls in which Customer’s PSAP participated and provides metrics for calls attempted, calls transferred out, calls transferred in
 - Event Count by Routing Reason and Destination – Indicates counts where Customer’s PSAP participated as the Primary versus Alternate, whether the call was answered or busy, for Default versus Selective routed, and for call where the destination was “Not Available” (includes abandoned, rejected, transferred and handed-off calls). Provides metrics for total calls, initial calls, calls transferred out, and calls transferred in for each category.
 - Event Count by Type – Indicates counts by call type (wireless, wireline, VoIP) where Customer’s PSAP is primary, and provides metrics for total calls, initial calls, calls transferred out, and calls transferred in.
 - Event Count by Incoming Trunk – Indicates the number of calls sent to Customer’s PSAP by each trunk, and provides metrics for total calls, initial calls, calls transferred out, and calls transferred in for each category.
 - Bridge Call Summary – provides metrics for calls bridged in or out by bridge type (fixed, selective, manual). Call detail is available for each bridged call.
 - Routing Database Processing – provides a breakout of initial calls where Customer’s PSAP was Primary by selectively routed versus default routed with a No Record Found (NRF) breakout
 - Event Setup Time – provides statistics on the time to route and deliver calls where your PSAP is Primary, including the minimum, maximum, median and average times.

7. TRAINING FOR COUNTY/MUNICIPAL COORDINATORS

Intrado will provide training to 9-1-1 NET to county/municipal coordinators for access to PMP (PSAP Management Portal). Each training session will last approximately up to two hours and will be via telephone conference call.



Intrado® A9-1-1 TXT29-1-1® Service Guide

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1. INTRODUCTION

A9-1-1® TXT29-1-1 Service (“Service”) is a fully managed solution offering emergency delivery of SMS over an Internet Protocol (IP) network. The Service includes the following:

- **Intrado’s ESInet** provides a multi-layer redundant IP network architecture for high system availability.
- **A9-1-1 TXT29-1-1** provides routing of 9-1-1 text messages based on text initiator cell sector location

1.1 Shared Services

Terms relating to facility requirements, system testing and migration, and support and escalation procedures are described in the A9-1-1 Shared Service Guide referenced in Customer’s Service Order. These terms will apply to the A9-1-1 Services described herein. In addition, the glossary found in the A9-1-1 Shared Service guide will define certain capitalized terms used in this Service Guide.

2. RESPONSIBILITY MATRIX

The following matrix outlines the typical responsibilities of each party for the implementation and ongoing provision of the Services. Where both parties have been listed, additional detail on the responsibilities of each party is included in the Sections below.

Task	Responsibility
Project Implementation	
Project Management	Intrado/Customer
Carrier Communications	Intrado
Develop Intrado Methods and Procedures	Intrado
PSAP Facilities	Customer
PSAP Facility Site Preparation (floor space, power, etc.)	Customer
PSAP Facility Site Survey	Intrado
PSAP Configurations/Lists	Customer/Intrado
A9-1-1 Text Routing Cell Sector Data	Intrado
Non-Intrado PSAP Equipment	Customer
Note: This may be legacy equipment or new equipment purchased under another Customer agreement and or non-Intrado PSAP equipment, such as CAD system, voice recording equipment, and radio system; if	

Task	Responsibility
applicable.	
Training on A9-1-1 Text Services	Intrado
End to End Testing of A9-1-1 Text Services Prior to Production	Intrado/Customer
Production Turn-up of A9-1-1 Text Services	Intrado/Customer
Ongoing Responsibilities	
A9-1-1 Text Application and System Upgrades	Intrado
A9-1-1 Text Log storage and Backups	Intrado
A9-1-1 Text Cell Sector Routing Metrics	Intrado
A9-1-1 Text Network and System Maintenance	Intrado
A9-1-1 Text Network and System Monitoring	Intrado
Maintain Intrado Methods and Procedures	Intrado
Problem Reporting, Triage and Resolution	Intrado/Customer
Mobile Carrier Communications	Intrado

Table 1: Responsibility Matrix

2.1 Project Implementation

Intrado is proposing the following phased implementation model for the Services:

1) Planning Phase

The first phase is a planning phase, where communications with each Mobile Carrier serving within the PSAP jurisdiction are initiated, circuit orders are coordinated, each PSAP site is surveyed, and data collection and analysis begins.

2) Network Deployment Phase

Following the initial planning phase, Intrado will begin activities to deploy the fully redundant IP network to each PSAP site. This is called the network deployment phase.

- The network deployment phase deploys the IP network that enables interoperability and data sharing between PSAPs over an IP based infrastructure.

3) PSAP Implementation Plan Outline Phase

The next phase outlines a defined PSAP implementation project plan that may:

- Deploy IP modules to the PSAPs

- Migrate PSAP onto Services

2.2 Intrado Project Support

Intrado designates a project manager to act as Intrado's project lead and the primary interface with the Customer's appointed contact for project collaboration. Project collaboration includes:

- Coordination of project kickoff meeting with Customer
- Coordination with Customer for implementation planning and design and requirements definition
- Identification and communication of key milestone dates and events for the implementation timeline
- Program tracking of the master project plan and task management of the project implementation
- Coordinate and manage all necessary Intrado resources to complete the Services deployment activities
- Work with each Customer PSAP to develop a detailed project plan that includes milestones for each project phase

Note: This plan is refined over the course of the project as mutually agreed by both parties.

- Appoint a Customer Program Manager

Note: Following the deployment phase completion, the Customer Program Manager will serve as Customer's primary point of contact for issues resolution, escalations, enhancement requests, and planning.

- Provide Customer with an emergency support 24x7x365 contact number, a routine support contact list, and an escalation contact list.

Note: It is the responsibility of each party to update and publish these lists on a regular basis.

2.3 Customer Project Support

Customer designates a 9-1-1 operations contact to act as the Customer's project lead for the duration of the project. The Customer's project lead works with the Intrado project lead to:

- Assist with the coordination of the project kickoff meeting with Intrado and Customer technical resources
 - Coordinate Customer's technical resources for implementation planning and design and requirements definition
 - Reporting and verify problems related to the project
 - Facilitate ongoing communications with Intrado
 - Assign appropriate Information Technology (IT) Personnel and experienced call takers at each PSAP who understand the overall impact of the transition of the 9-1-1 systems and can assist in the overall impact planning for transition activities such as testing and migration.

Note: This activity may include Intrado and the Customer's appropriate technical and operational groups to assure a solid understanding of the network architecture, data exchange procedures, PSAP needs, standard operational procedures, and services as designed for the Customer.

3. SERVICE OVERVIEW

3.1 Service Solution Description

Intrado A9-1-1 TXT29-1-1® service ("Service") enables wireless subscribers to make an emergency Request for Assistance (RFA) using an SMS text message. The TXT29-1-1 Service provides a messaging gateway, routing services, and a communications interface for emergency service requests sent via SMS text message to 9-1-1.

Intrado's network is able to simultaneously process, route, and track emergency text dialogues for multiple NG9-1-1 customers. On receipt of a new SMS message, the Intrado network requests the cell sector location of the Request Initiator (RI) and routes the SMS message based on the location of the RI and the associated PSAP jurisdiction. A session is established via the Intrado Power 911® request server at the PSAP with a visual indication on the workstation. An available call taker uses the Intrado interface to answer the session and to send and receive text messages with the RI.

Only text messages where the RI location is within the Customer's boundaries will be routed into the PSAP message queue. Text messages which do not fall within Customer's PSAP boundary will not be routed, and a text response will be sent stating that text to 9-1-1 is not supported and the RI should place a voice call to 9-1-1.

3.2 TXT29-1-1 Component

A9-1-1 TXT29-1-1 Service includes the following features:

- Interconnection with SMS networks for routing text messages sent to 9-1-1
- Visual alert to call taker that an emergency RFA message has arrived
- Ability to accept, complete, and place in queue any incoming text messages
- Pre-loaded and configurable messages to make responses quick and efficient
- Configurable in-coming text message queue. Any texts over the maximum will be told to place a voice call to 9-1-1.
- Call taker may respond to a text message RFA while on a voice call, if they so choose.
- Option to re-open a completed text session
- Redundant messaging gateway systems

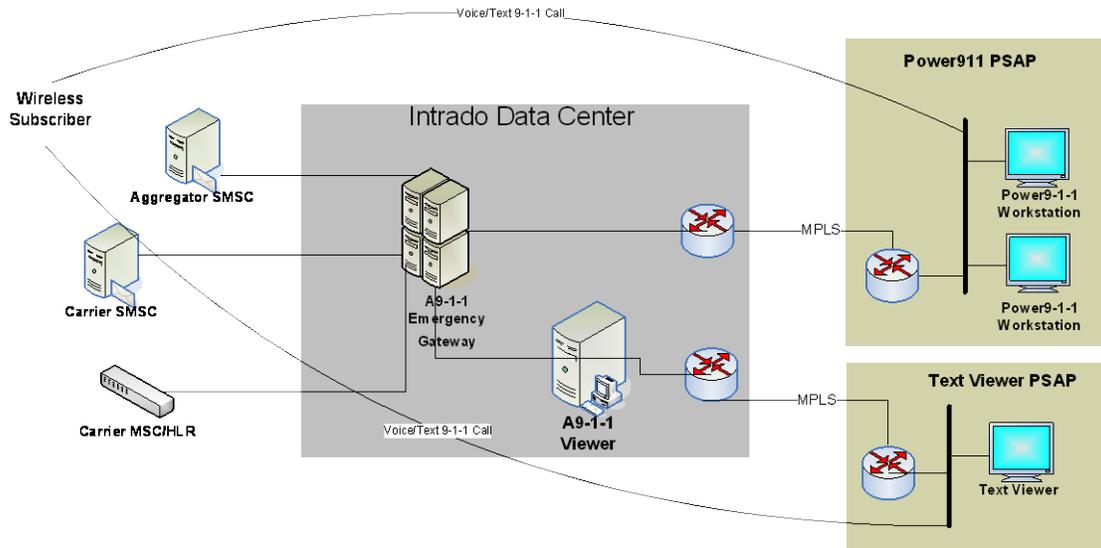


Figure 1: A9-1-1 TXT29-1-1 Components

3.3 Sample Message Flow

The following is a sample message flow to illustrate the TXT29-1-1 Service:

- 1) A RI sends a text message to 9-1-1.
- 2) The text request is routed through the wireless carrier's network to the Intrado Emergency Text Gateway directly or via an SMS aggregator.
- 3) Intrado identifies the text request as a new text dialogue.
- 4) Intrado sends a cell sector identifier request to the wireless carrier's network via an ISPOSREQ (CDMA) or ATI (GSM) query.
- 5) The wireless carrier's network returns the RI's cell site location to Intrado. If the cell sector identifier is not received back from the wireless carrier's network within a configurable time period, Intrado responds back with a standard 'text is not available' message.
- 6) Intrado determines in which PSAP jurisdiction the RI is located based on the cell sector latitude/longitude coordinates.
- 7) The initial text message is then sent by Intrado to the PSAP and displayed at the Customer's Intrado interface.
- 8) The request server processes the request and displays the new SMS request on each of the screens.
- 9) A call taker selects the new text message by selecting the on screen indicator and sends a message back to the RI. This return message may be a pre-loaded message which the call taker can select, a modification of the call taker's pre-loaded message, or the call taker's own specific message created by typing it into the message return field. The pre-loaded message file is unique to the PSAP.

- 10) If an agent does not respond to text message within configurable time window, the Service will send a response to the RI that “text to 9-1-1 is not available in this area, please call 9-1-1.”
- 11) The Customer call taker uses the Power 911 interface to view and exchange text messages with the RI.
- 12) When the text dialogue is complete, the Customer call taker will close the text dialogue through the Power 911 interface.
- 13) The Customer call-taker may optionally retrieve and view transcript of the completed text dialogues.
- 14) Text messages will be presented to call-takers whether they are on a current 9-1-1 call or not. If they choose, the call-taker may respond to text messages while on voice 9-1-1 call.
- 15) There are two configurable parameters related to text message rejection:
 - Maximum text message load: A maximum number of concurrent text messages to be handled within the PSAP (number including those in progress and those ringing in queue). Once this limit is reached, any further text message received from ETG will be automatically rejected until a text message is released by one of the Power 911 positions.
 - Ring timeout: For each text message handled at the PSAP, if the message is not answered within the “ring timeout” time period, the text message will be automatically rejected.

3.4 User Interface

Intrado offers two interfaces for TXT29-1-1, the Power 911 interface or A9-1-1 Text Viewer. Each interface provides the following functions for TXT29-1-1 Service:

- Accept, complete, and put-on-hold incoming text message sessions
- Display of the Call-Back Number (CBN) of the wireless device initiating the SMS text message
- Window for viewing an in-process text dialogue
- Text entry window for entering and sending a SMS text response to the Request Initiator
- Dialogue closure button for closing the dialogue
- View-only retrieval of completed text dialogues

The interface will queue text message requests to a dedicated on-screen text message queue button on each workstation configured for this feature. The number of Requests for Assistance that can be queued is configurable. When the upper limit is exceeded, a new text message Request for Assistance will not be added to the queue, and a system busy response will be sent to the RI.

4. TRAINING

Intrado will provide one training session on the service. Training will be “train-the-trainer” format, which will enable Customer to train new employees. Customer and Intrado will mutually agree on the training schedule.

Customer will identify personnel and work with Intrado to schedule training.

5. FEEDBACK ON SERVICE

Customer agrees to provide feedback to Intrado on the Service. This feedback may include print and video testimonials, photographs, case studies, showcase site customer tours, and documenting and promoting milestones. Customer grants Intrado an unrestricted, perpetual right to use all feedback in any format for any purpose. Intrado will work with Customer to mutually agree upon the number and frequency of these activities:

- Focus groups and User groups
- Questionnaires
- Surveys

6. SERVICES LIMITATIONS AND DISCLAIMERS

The following Services limitations and disclaimers apply:

- The Service cannot be enabled until Customer’s ILEC has modified their network to route to the Intrado Emergency Text Gateway.
- Intrado’s responsibility for Request for Assistance (RFA) text message routing and processing begins when text messages have been delivered to the Intrado router and is limited to the routing and delivery of text messages from Intrado to the identified PSAP call taker. Intrado is not responsible for the delivery or timing of SMS Request for Assistance text messages through the SMS networks.
- Though Intrado operates redundant messaging gateway systems, serious system or network failures could result in the TXT29-1-1 services being temporarily unavailable. Due to the SMS network and/or wireless carrier servers, new and in-process text dialogues could be delayed or lost. In this circumstance, the RI will receive a message stating that the Service is not available and to contact 9-1-1 through other means.
- There is currently no transfer capability in the TXT29-1-1 Services. If a request is determined to belong to another PSAP, the RI will either have to call 9-1-1 or the call taker will have to call the other PSAP and relay the message via voice.
- PSAP call taker cannot initiate a text session with a caller.
- The Power 9-1-1 interface will not bid the ALI system nor receive an ALI response for text messages. No ALI-like data will be provided for text messages.
- The TXT29-1-1 Service is an emerging technology and is not a replacement for established landline and wireless 9-1-1 services. The TXT29-1-1 Service relies on industry SMS infrastructure which is not built to public safety standards, and may include increased latency and the potential for dropped messages.
- The TXT29-1-1 Service requires that mobile phones must be text-enabled and be capable of sending properly formatted text messages.



Intrado[®] A9-1-1 Media[®] Service Guide

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1. INTRODUCTION

A9-1-1® Media Service (“Service”) is a fully managed solution offering delivery of Media to the PSAP from mobile phones or through the internet. The Service includes the following:

- **Intrado’s ESInet** provides a multi-layer redundant IP network architecture for high system availability.
- **A9-1-1 Media** provides notification and delivery of Media taken from a callers mobile phone. Media can consist of a photograph, audio clip or video clip. Were the sender to include any text information with the Media this would be displayed at the PSAP.

2. SHARED SERVICES

Terms relating to facility requirements, system testing and migration, and support and escalation procedures are described in the A9-1-1 Shared Service Guide referenced in Customer’s Service Order. These terms will apply to the A9-1-1 Services described herein. In addition, the glossary found in the A9-1-1 Shared Service guide will define certain capitalized terms used in this Service Guide.

3. RESPONSIBILITY MATRIX

The following matrix outlines the typical responsibilities of each party for the implementation and ongoing provision of the Services. Where both parties have been listed, additional detail on the responsibilities of each party is included in the Sections below.

Task	Responsibility
Project Implementation	
Project Management	Intrado/Customer
Develop Intrado Methods and Procedures	Intrado
PSAP Facilities	Customer
PSAP Facility Site Preparation (floor space, power, etc.)	Customer
PSAP Facility Site Survey	Intrado
PSAP Configurations/Lists	Customer/Intrado
A9-1-1 Text Routing Cell Sector Data	Intrado
Non-Intrado PSAP Equipment	Customer
Note: This may be legacy equipment or new equipment purchased under another Customer agreement and or non-Intrado PSAP equipment, such as CAD system, voice recording equipment, and radio system; if	

Task	Responsibility
applicable.	
Training on A9-1-1 Address Intelligence Services	Intrado
End to End Testing of A9-1-1 Address Intelligence Services Prior to Production	Intrado/Customer
Production Turn-up of A9-1-1 Address Intelligence Services	Intrado/Customer
Ongoing Responsibilities	
A9-1-1 Address Intelligence Application and System Upgrades	Intrado
A9-1-1 Address Intelligence Storage and Backups	Intrado
A9-1-1 Address Intelligence Network and System Maintenance	Intrado
A9-1-1 Address Intelligence Network and System Monitoring	Intrado
Maintain Intrado Methods and Procedures	Intrado
Problem Reporting, Triage and Resolution	Intrado/Customer
Commercial Database Provider Communications	Intrado

Table 1: Responsibility Matrix

4. PROJECT IMPLEMENTATION

The following phased implementation will apply to the Services:

1) Planning Phase

The first phase is a planning phase, when circuit orders are coordinated and each PSAP site is surveyed.

2) Network Deployment Phase

Following the initial planning phase, Intrado will begin activities to deploy the fully redundant IP network to each PSAP site. This is called the network deployment phase.

- The network deployment phase deploys the IP network that enables interoperability and data sharing between PSAPs over an IP based infrastructure.

3) PSAP Implementation Plan Outline Phase

The next phase outlines a defined PSAP implementation project plan that may:

- Deploy IP modules to the PSAPs

- Migrate PSAP onto Services

4.1 Intrado Project Support

Intrado designates a project manager to act as Intrado's project lead and the primary interface with the Customer's appointed contact for project collaboration. Project collaboration includes:

- Coordination of project kickoff meeting with Customer
- Coordination with Customer for implementation planning and design and requirements definition
- Identification and communication of key milestone dates and events for the implementation timeline
- Program tracking of the master project plan and task management of the project implementation
- Coordinate and manage all necessary Intrado resources to complete the Services deployment activities
- Work with each Customer PSAP to develop a detailed project plan that includes milestones for each project phase

Note: This plan is refined over the course of the project as mutually agreed by both parties.

- Appoint a Customer Program Manager

Note: Following the deployment phase completion, the Customer Program Manager will serve as Customer's primary point of contact for issues resolution, escalations, enhancement requests, and planning.

- Provide Customer with an emergency support 24x7x365 contact number, a routine support contact list, and an escalation contact list.

Note: It is the responsibility of each party to update and publish these lists on a regular basis.

4.2 Customer Project Support

Customer designates a 9-1-1 operations contact to act as the Customer's project lead for the duration of the project. The Customer's project lead works with the Intrado project lead to:

- Assist with the coordination of the project kickoff meeting with Intrado and Customer technical resources
 - Coordinate Customer's technical resources for implementation planning and design and requirements definition
 - Reporting and verify problems related to the project
 - Facilitate ongoing communications with Intrado
 - Assign appropriate Information Technology (IT) Personnel and experienced call takers at each PSAP who understand the overall impact of the transition of the 9-1-1 systems and can assist in the overall impact planning for transition activities such as testing and migration.

Note: This activity may include Intrado and the Customer's appropriate technical and operational groups to assure a solid understanding of the network architecture, data exchange

procedures, PSAP needs, standard operational procedures, and services as designed for the Customer.

5. SERVICE OVERVIEW

5.1 Solution Description

The Intrado A9-1-1® Media service (“Service”) enables the PSAP call taker to request, receive, and view media files. Media comprising of photographs, audio clips, or video clips are included in the service offering. Media files of interest (“Media”) are solicited by PSAP call takers from callers and routed to the PSAP via an email address or a 10 digit MMS number. The number or email address is provided to the caller by the PSAP call taker verbally. The caller may then email or text the Media.

Media may be retrieved by the PSAP call taker by entering the mobile phone number or email address of the sender into the A9-1-1 Viewer screen. More than one TN or email may be searched during the event. If the Media is sent from the same TN as the event caller, the A9-1-1 Viewer screen will visually alert the call taker that new Media is available to be viewed. All Media received will be displayed in a list. The PSAP agent can select one or several Media files to view or listen to.

The Service operates in a similar fashion if the caller has entered into a text dialogue rather than a voice call. Text messages sent to accompany the Media will be forwarded to the PSAP agent and displayed in the Power 911® workstation.

The Service provides SPAM identification to prevent misuse of email and MMS addresses.

5.2 Service Features

A9-1-1 Media Service includes the following features:

- Media files that can be transmitted include photographs, audio clips, and video clips
- Media may be sent via email or 10 digit MMS number
- SPAM identification to prevent misuse of email and MMS addresses
- PSAP can flag media from TN/email to indicate either desirable content or undesirable content
- Viewer visually alerts call taker when new Media arrives which is correlated to the TN of the event
- Call taker can easily retrieve each Media file through the A9-1-1 Viewer and page back and forth between them if multiple files are received

5.3 Media Service Components

A9-1-1 Media Service includes the following components:

- Interconnection with MMS network aggregator
- Email server for delivery via email attachment
- Redundant Media server and A9-1-1 data core components

- Integration between the Power 911 workstation and the A9-1-1 Viewer for automatic delivery of call TN/location data to the A9-1-1 Viewer
- Redundant, secure, private IP connectivity between the PSAP and Intrado's data center

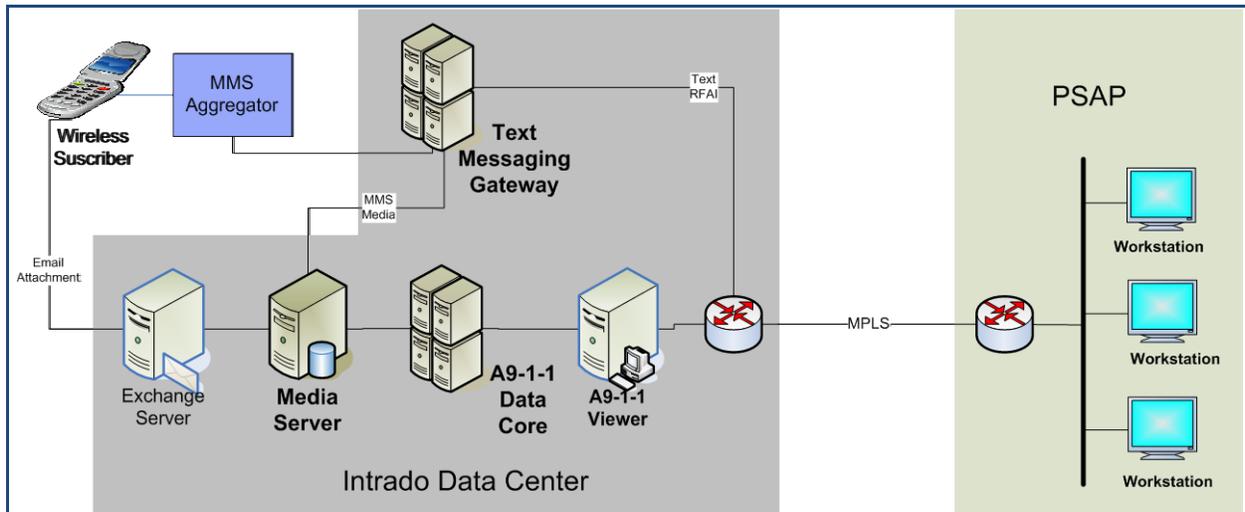


Figure 1: A9-1-1 Media Components

5.4 Sample Message Flow

The following is a sample message flow to illustrate the Service. (see Figure 1 above):

- 1) An RI (Request Initiator) texts or calls 9-1-1 and terminates on the serving PSAP.
- 2) The Power 911 workstation transfers the TN and location of the event to the A9-1-1 Viewer and initiates an emergency event.
- 3) The RI mentions that a Media file pertaining to the event is available on the RI's mobile phone.
- 4) The PSAP agent requests that the caller send the Media via an MMS (10 digit telephone number) or to an email address as an email attachment.
- 5) The RI sends the Media as instructed to the TN or the email address.
- 6) The A9-1-1 Viewer visually alerts the agent that media has arrived for the TN of the current event. Alternately, the PSAP agent could manually enter a different TN (if Media is sent from a different phone) or an email address from which the Media was sent to retrieve the file.
- 7) The agent selects the tab, and a list of all the Media from that caller TN/email address is displayed.
- 8) The agent may navigate between the various files and display or play them.
- 9) The agent closes the event in A9-1-1 Viewer.

5.5 User Interface

The A9-1-1 Viewer interface provides the following functions for A9-1-1 Media service:

- Power 911 transfers the TN and location (if available) of the event to the A9-1-1 Data Viewer and initiates an emergency event
- The A9-1-1 Viewer alerts the call taker visually if Media data is available for the TN of the event
- The A9-1-1 Viewer will determine if any additional supplemental data (if Customer has subscribed to this data) is available for the TN
- Viewer can display multiple Intrado services concurrently
- Viewer supports an emergency event closure button for closing the event

5.6 MMS and Email Network Interconnection

- Intrado will interconnect with carrier MMS networks via an MMS aggregator to route multi-media messages.
- Intrado will interconnect to email systems by supporting a Media exchange server

5.7 Data Display and Logging

The following is a listing of the data display through the A9-1-1 Viewer and logging practices:

Displayed Data

The A9-1-1 Viewer displays the following information for Media:

- Date and time Media was sent
- RI's phone number or email address
- Type of data file
- Size of data file
- Provides a link to the Media file
- Flagged status

Logged Data

- Media files are retrievable for up to 120 days after an event is closed by email address or TN of the sender. After 120 days the files will be archived for a period of three years, and will require 30 days notice for retrieval.

6. TRAINING

Intrado will provide one on-site or web-based training session on the Service. Training will be “train-the-trainer” format, which will enable Customer to train new employees. Customer and Intrado will mutually agree on the training schedule. Customer will identify personnel and work with Intrado to schedule training.

7. FEEDBACK ON SERVICE

Customer agrees to provide feedback to Intrado on the Services. This feedback may include print and video testimonials, photographs, case studies, showcase site customer tours, and documenting and promoting milestones. Customer grants Intrado an unrestricted, perpetual right to use all feedback in any format for any purpose. Intrado will work with Customer to mutually agree upon the number and frequency of these activities:

- Focus groups and User groups
- Questionnaires
- Surveys

8. SERVICES LIMITATIONS AND DISCLAIMERS

Customer understands, acknowledges, and accepts the following limitations of the A9-1-1 Media Service:

- If Customer is employing Intrado's Power 911 workstations, then the ANI/ALI data will be pushed from Power 911 to the A9-1-1 Viewer, and an emergency event will automatically be initiated. If Customer is using another call handling product, then A9-1-1 Viewer will require manual entry to initiate an emergency event.
- Intrado's responsibility for storing and retrieving Media begins on receipt of the files at the Intrado text gateway for MMS files and email server for email attachments.
- Though Intrado operates redundant A9-1-1 data core and Media server systems, system or network failures could result in the Services being unavailable. Due to the MMS network/connectivity failures, delivery of Media could be delayed or lost.
- The Services are intended to provide supplemental information in support of wireless 9-1-1 services. MMS relies on industry MMS infrastructure which is not built to public safety standards and may include increased latency and the potential for dropped media files.
- Intrado recommends that each position have two screens to best enable the display of data provided by the Services to A9-1-1 Viewer.
- A9-1-1 Media Service does not include delivery of real time video streaming from a smart phone to the PSAP as part of a 9-1-1 call.
- A9-1-1 Media Service does not support the ability to provide event location information though location maybe inferred from the location of a 9-1-1 emergency call.
- The ability to view or play media files is dependent on the type of file sent by the RI and the media software available on the call taker's workstation.
- Initial version of the Services does not support the map view; later versions of the Services will include mapping of all addresses on the map providing the address is within the PSAP jurisdictional boundary.



Intrado® A9-1-1 Address Intelligence Service Guide

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1. INTRODUCTION

A9-1-1® Address Intelligence Service (“Service”) is a fully managed solution offering delivery of registered addresses of a caller. The Service includes the following:

- **Intrado’s ESInet** provides a multi-layer redundant IP network architecture for high system availability.
- **A9-1-1 Address Intelligence** provides notification and delivery of possible addresses of a caller where the postal address is not available. The Service is primarily aimed at wireless callers to 9-1-1 who may be calling from a high rise building, for example. However, the Service also works for wireline and VoIP calls to 9-1-1.

1.1 Shared Services

Terms relating to facility requirements, system testing and migration, and support and escalation procedures are described in the A9-1-1 Shared Service Guide referenced in Customer’s Service Order. These terms will apply to the A9-1-1 Services described herein. In addition, the glossary found in the A9-1-1 Shared Service guide will define certain capitalized terms used in this Service Guide.

2. RESPONSIBILITY MATRIX

The following matrix outlines the typical responsibilities of each party for the implementation and ongoing provision of the Services. Where both parties have been listed, additional detail on the responsibilities of each party is included in the Sections below.

Task	Responsibility
Project Implementation	
Project Management	Intrado/Customer
Private Database Vendor Communication	Intrado
Develop Intrado Methods and Procedures	Intrado
PSAP Facilities	Customer
PSAP Facility Site Preparation (floor space, power, etc.)	Customer
PSAP Facility Site Survey	Intrado
PSAP Configurations/Lists	Customer/Intrado
A9-1-1 Text Routing Cell Sector Data	Intrado

Task	Responsibility
Non-Intrado PSAP Equipment Note: This may be legacy equipment or new equipment purchased under another Customer agreement and or non-Intrado PSAP equipment, such as CAD system, voice recording equipment, and radio system, if applicable.	Customer
Training on A9-1-1 Address Intelligence Services	Intrado
End to End Testing of A9-1-1 Address Intelligence Services Prior to Production	Intrado/Customer
Production Turn-up of A9-1-1 Address Intelligence Services	Intrado/Customer
Ongoing Responsibilities	
A9-1-1 Address Intelligence Application and System Upgrades	Intrado
A9-1-1 Address Intelligence Storage and Backups	Intrado
A9-1-1 Address Intelligence Network and System Maintenance	Intrado
A9-1-1 Address Intelligence Network and System Monitoring	Intrado
Maintain Intrado Methods and Procedures	Intrado
Problem Reporting, Triage and Resolution	Intrado/Customer
Commercial Database Provider Communications	Intrado

Table 1: Responsibility Matrix

2.1 Project Implementation

Intrado is proposing the following phased implementation model for the Services:

1) Planning Phase

The first phase is a planning phase, when circuit orders are coordinated and each PSAP site is surveyed.

2) Network Deployment Phase

Following the initial planning phase, Intrado will begin activities to deploy the fully redundant IP network to each PSAP site. This is called the network deployment phase.

- The network deployment phase deploys the IP network that enables interoperability and data sharing between PSAPs over an IP-based infrastructure. .

3) PSAP Implementation Plan Outline Phase

The next phase outlines a defined PSAP implementation project plan that may:

- Deploy IP modules to the PSAPs
- Migrate PSAP onto Services

2.2 Intrado Project Support

Intrado designates a project manager to act as Intrado's project lead and the primary interface with the Customer's appointed contact for project collaboration. Project collaboration includes:

- Coordination of project kickoff meeting with Customer
- Coordination with Customer for implementation planning and design and requirements definition
- Identification and communication of key milestone dates and events for the implementation timeline
- Program tracking of the master project plan and task management of the project implementation
- Coordinate and manage all necessary Intrado resources to complete the Services deployment activities
- Work with each Customer PSAP to develop a detailed project plan that includes milestones for each project phase

Note: This plan is refined over the course of the project as mutually agreed by both parties.

- Appoint a Customer Program Manager
 - Note: Following the deployment phase completion, the Customer Program Manager will serve as Customer's primary point of contact for issues resolution, escalations, enhancement requests, and planning.
- Provide Customer with an emergency support 24x7x365 contact number, a routine support contact list, and an escalation contact list.

Note: It is the responsibility of each party to update and publish these lists on a regular basis.

2.3 Customer Project Support

Customer designates a 9-1-1 operations contact to act as the Customer's project lead for the duration of the project. The Customer's project lead works with the Intrado project lead to:

- Assist with the coordination of the project kickoff meeting with Intrado and Customer technical resources

- Coordinate Customer’s technical resources for implementation planning and design and requirements definition
- Reporting and verify problems related to the project
- Facilitate ongoing communications with Intrado
- Assign appropriate Information Technology (IT) Personnel and experienced call takers at each PSAP who understand the overall impact of the transition of the 9-1-1 systems and can assist in the overall impact planning for transition activities such as testing and migration.

Note: This activity may include Intrado and the Customer’s appropriate technical and operational groups to assure a solid understanding of the network architecture, data exchange procedures, PSAP needs, standard operational procedures, and services as designed for the Customer.

3. SERVICE OVERVIEW

3.1 Service Description

A9-1-1 Address Intelligence (AI) service (“Service”) enables the PSAP call taker to obtain a likely postal address of a caller through the use of ancillary data and proprietary algorithms. The Service will provide an address in situations where the 9-1-1 caller cannot tell the call taker where they are. Though most applicable for mobile phones, the Service also supports wireline or VoIP phones where only the TN is available.

The Service supports two call instances:

- The location (latitude/longitude) of the caller is known. In this call instance, by comparing the location of the caller with the possible home and business addresses supplied from these databases, this Service provides the PSAP call taker with a most likely postal address.
- The location of the caller is not known. In this scenario the Service will provide address information listed from newest to oldest.

The Service operates in a similar fashion if the caller has sent a text message to the PSAP.

The Service will have the most value to call takers when the caller is calling from a mobile phone in a multi-unit dwelling or when mobile phone location data is not available.

Intrado employs public and private databases to identify addresses of residences and businesses related to the caller’s telephone number.

3.2 Service Features

The Service includes the following features:

- Ability to query on TN of the caller or TN involved in the event
- May query more than one TN during an event
- Option to view the results in either a list view or a map view
- Ability to use any of the locations found during the query as the location of the event

- An option is provided to hand-enter an address or latitude/longitude or modify one found during a query

3.3 Address Intelligence Service Components

The Service includes the following service components:

- Redundant data core network
- Redundant instances of the database gateway which queries public and private databases with wireless and wireline TNs
- A9-1-1 Data Viewer, which displays the address data in a list and map view
- Integration between the Positron® Power 911® workstation and the A9-1-1 Viewer for automatic delivery of call TN/location data to the A9-1-1 Viewer
- Redundant, secure, private IP connectivity between the PSAP and Intrado data center

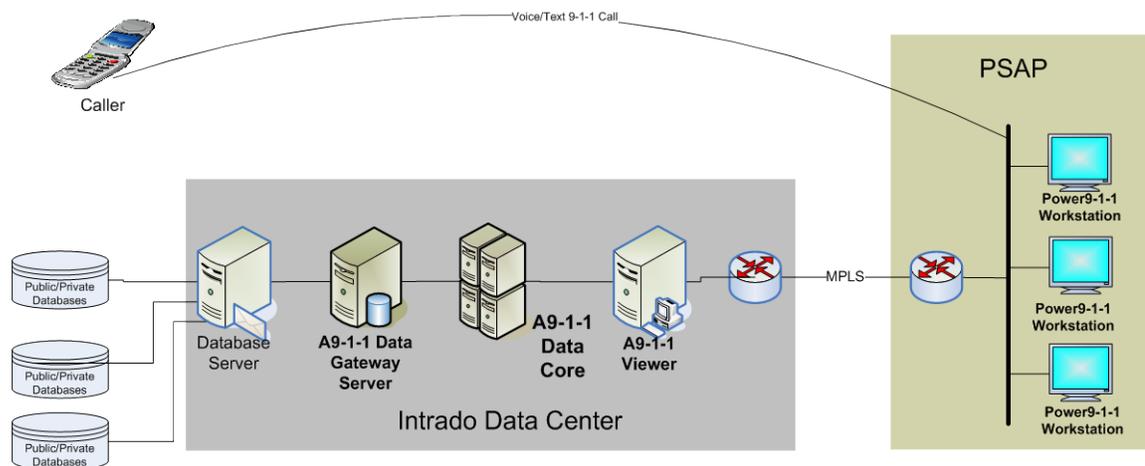


Figure 1: A9-1-1 Address Intelligence Components

3.4 Sample Message Flow

The following is a sample message flow to illustrate A9-1-1 Address Intelligence Service (see Figure 1 above):

- 1) A caller initiates a 9-1-1 request for assistance via voice or text and terminates on the serving PSAP.
- 2) An emergency event is established in the A9-1-1 Viewer with the automatic entry of the TN and the location (latitude/longitude) or address of the caller.
- 3) The data gateway server will send a request for an address lookup to the database server which in turn queries Intrado databases.
- 4) The database server returns all names and addresses associated with the TN to the data gateway server.
- 5) The Service calculates the distance from the caller, if known, and returns all addresses found for the TN with the distance from the caller.

- 6) The call taker is visually alerted of Address Intelligence data being available.
- 7) The call taker selects the Address Intelligence panel. The correlated addresses are displayed as a list and on the map view with distance from the caller displayed, if known. The call taker can select an address as the emergency event address to be set as the location of the emergency event.
- 8) When complete, the call taker closes the event in A9-1-1 Viewer.

3.5 User Interface

The A9-1-1 Viewer interface provides the following functions for A9-1-1 Address Intelligence service:

- Power 911 transfers TN and location (if available) of the event to the A9-1-1 Data Viewer and initiates an emergency event
- A9-1-1 Viewer can display multiple Services concurrently
- Addresses can be displayed on a map view showing relative distances
- Viewer supports an emergency event closure button for closing the event

3.6 Data Display and Logging

The following is a listing of the data display and logged data through the A9-1-1 Viewer:

3.6.1 Displayed Data

The A9-1-1 Viewer displays the following information:

- TNs of, or associated with, the event
- Address or latitude and longitude of the event
- All address data found for the TN query will include
 - Address or Lat/long
 - County
 - Distance to event
 - Date the address was registered
 - Name of subscriber
 - Company if a work phone
 - Carrier

3.6.2 Logged Data

The Data Gateway logs the TN and location of all Address Intelligence queries. Intrado will provide log files back one year on Customer request. Customer requests for logs older than one year are out of scope and subject to change order.

4. TRAINING

Intrado will provide one training session on the service. Training will be “train-the-trainer” format, which will enable Customer to train new employees. Customer and Intrado will mutually agree on the training schedule. Customer will identify personnel and work with Intrado to schedule training.

5. FEEDBACK ON SERVICE

Customer agrees to provide feedback to Intrado on the Services. This feedback may include print and video testimonials, photographs, case studies, showcase site customer tours, and documenting and promoting milestones. Customer grants Intrado an unrestricted, perpetual right to use all feedback in any format for any purpose. Intrado will work with Customer to mutually agree upon the number and frequency of these activities:

- Focus groups and User groups
- Questionnaires
- Surveys

6. SERVICES LIMITATIONS AND DISCLAIMERS

Customer understands, acknowledges, and accepts the following limitations of the A9-1-1 Address Intelligence Service:

- If Customer is employing Intrado’s Power 911 workstations, then the ANI/ALI data will be pushed from Power 911 to the A9-1-1 Viewer, and an emergency event will automatically be initiated. If Customer is using another call handling product, then A9-1-1 Viewer will require manual entry to initiate an emergency event.
- Intrado’s responsibility for storing and retrieving address information is limited by the availability of addresses for the applicable phone number in the databases searched by Intrado. Searches may not always be successful in determining a viable address.
- There will be an indeterminate delay from the time that the agent requests the address and when the databases have provided a likely address.
- There will be a margin of error in determining address correlation dependent on whether a Phase 2 caller location is obtained; addresses that correlate by being in the proximity of the caller are likely locations for the caller, not necessarily where the caller is located.
- Initial version of the Service does not support the map view; later versions of the service will include mapping of all addresses on the map providing the address is within the PSAP jurisdictional boundary.



Intrado® A9-1-1 i3 Service Guide

Version 2012.04.13



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1. SERVICE OVERVIEW

The A9-1-1 i3 Service (the “Service”) will provide Customer with IP-based call routing services compliant with i3 functionality as referenced in the NENA Detailed Functional and Interface Standards 08-003 v1, June 14, 2011 (“i3 Reference Architecture”), including as such i3 Reference Architecture are updated or modified over time.

2. SHARED SERVICES

Terms relating to facility requirements, system testing and migration, and support and escalation procedures, are described in the A9-1-1 Shared Service Guide referenced in Customer’s Service Order. These terms will apply to the A9-1-1 Services described herein. In addition, the glossary found in the A9-1-1 Shared Service guide will define certain capitalized terms used in this Service Guide.

3. A9-1-1 I3 SERVICES DESCRIPTION

The A9-1-1 i3 Services include:

- Routing calls, text and enhanced data utilizing i3 functional elements and open standard protocols, as defined in the i3 Reference Architecture. These functions include the call routing components (BCF, LNG, LIS, ESRP, PRF, ECRF, i3 PSAP) as well as the GIS data provisioning components (SIF, LVF)
- Providing a network supporting delivery of 9-1-1 voice and text via SIP/PIDF-LO to the PSAP. The network will also deliver supplemental data notification with supporting service as defined the i3 Reference Architecture.
- Providing A9-1-1 VIPER Services that support the i3 Reference Architecture.
- Enabling enhanced data services at the PSAP, including text to 9-1-1 delivery, and enhanced data compliant with the i3 Reference Architecture.

Figure 1 is a high-level overview of the i3 functions as part of the A9-1-1 i3 Service.

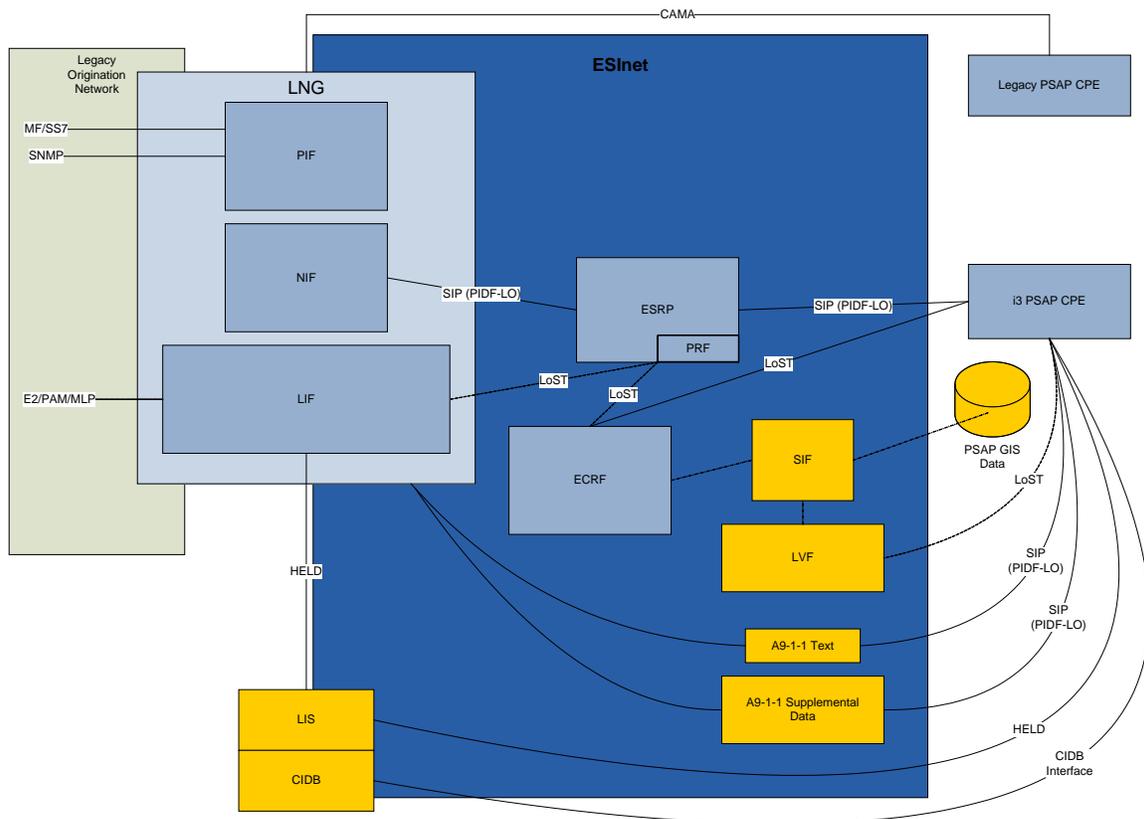


Figure 1: i3 Functions- A9-1-1 i3 Service

4. SERVICE ELEMENTS

4.1 i3-Based Multi Media Routing

The i3 Services include the following multi-media routing i3 functional elements, per the i3 Reference Architecture, to support voice, text and enhanced data routing and delivery:

- Border Control Function (BCF), which allows communication between external ESInets and the Intrado ESInet
- Emergency Call Routing Function (ECRF), which contains Customer's GIS-formatted data for call routing of 9-1-1 calls
- Emergency Service Routing Proxy (ESRP), which determines the next routing destination based on queries to the ECRF for delivery of call to i3 PSAP
- Legacy Network Gateway (LNG), which transforms ingress 9-1-1 voice, text and enhanced data traffic from legacy network interfaces to i3 recommended SIP
- Policy Routing Function (PRF), which identifies the call routing rules for each PSAP
- LoST protocol used by ESRP as the open standard protocol that queries the ECRF

- LNG, which generates the Presence Information Data Format – Location Object (PIDF-LO) protocol based on data received from the LIS and ECRF for proper routing of 9-1-1 call to the ESRP
- Session Initiation Protocol (SIP) – Transport IP protocol standard used for the signaling of the call

4.2 i3-Based Location Data Management

The following i3 protocols and functions will be supported for location data management, per the i3 Reference Architecture:

- Caller Information Database (CIDB) functions contain information such as Carrier Name, Class of Service, etc.
- Emergency Call Routing Function (ECRF) contains Customer' GIS data; used for routing 9-1-1 calls
- Location Information Server (LIS) database services that contain civic address and/or geodetic location information of 9-1-1 callers
- Location Validation Function (LVF) utilizes the GIS data provided by the 9-1-1 jurisdiction to validation locations before records are provisioned to the LIS and for PSAPs to validate locations during a 9-1-1 call
- Spatial Information Function (SIF) provides an interface for Customer to send GIS updates. The SIF will validate the data and use it to provision the LVF and ECRF.

As part of Intrado's i3 services, Intrado will also provide data replication and GIS data tools for uploading of GIS data to the ECRF via the SIF.

4.3 I3-Based A9-1-1 VIPER Services

Intrado's A9-1-1 VIPER Services will support i3 functions and protocols as data and i3 Services become available. As defined within the NENA i3 Reference Architecture, the A9-1-1 VIPER Services will support the ability for the Customer to:

- Terminate a voice emergency call with SIP/PIDF-LO
- Query the ECRF for emergency responder information using the LoST protocol
- Query a CIDB to obtain additional caller information data
- Query a LIS to obtain updated information during a call using the HELD protocol
- Terminate/display text emergency call information with PIDF-LO
- Query and display enhanced data information on the PSAP workstation

5. TRANSITION TO I3 SERVICES

5.1 Development of Transition Plan

Intrado will work with Customer to develop a transition plan for Customer to migrate to the i3 Services from the initially deployed A9-1-1 Services. The transition plan will outline the following key objectives and deliverables, and will be mutually agreed on prior to implementation:

- Plan to support each of the functions identified in this Service Guide and/or the i3 Reference Architecture onto Customer-provided ESInet
- Analyze Customer-provided GIS data for GIS data management migration to support GIS-based call routing for voice, text and data services
- Collaborate on implementation schedule with i3 functions supported
- Define Customer and Intrado responsibilities
- Key project management contact information

5.2 Update to Service Guides

The transition to i3 Services will require revisions to the A9-1-1 Services initially deployed for Customer, particularly to:

- A9-1-1 Location Data Management Services
- A9-1-1 Routing Services
- A9-1-1 VIPER Services
- A9-1-1 Text2 9-1-1 Services
- A9-1-1 Address Intelligence Services
- A9-1-1 Media Service

These revisions will be clearly documented in updated Service Guides provided to Customer in connection with the transition.