

Assure911.net-DG-CSI/NG911-002	January 31, 2012
CSI/NG911 Access Plan Document	EXHIBIT 15

## **7.0 MIGRATING 9-1-1 SERVICE**

In order to migrate the legacy E9-1-1 calls from the existing legacy network, the following deployment plan will be followed.

### **7.1 Preparation of Access Carriers**

All access carriers (Wireline Carriers, Wireless Carriers, CLECs, etc.) will review the sizing of their legacy E9-1-1 trunk groups from their switching entities to the legacy SR. Each access carrier will provide their traffic engineering data and trunk group counts and type description (ISDN PRI, CAMA/MF, SS7, etc) to the CSI ESInet Design Team. Each access carrier will collaborate with the CSI ESInet Design Team to agree upon the appropriate number of trunks and types from each of their switching entities to the LNG function in each of the Data Centers. IP trunking connectivity will be utilized where practicable. Once the new trunking is installed, field testing will commence. The transfer of the 9-1-1 traffic load will occur after all field tests have been passed, the lab and field testing of the ESInet has been passed, the appropriate PSAP or PSAPs required to accept the traffic have been equipped with the new IP work station equipment, and have passed both lab and field testing. A deployment schedule will be developed to coordinate these activities.

### **7.2 Preparation of PSAPs**

All PSAPs in the trial area (13 PSAPs) will review the sizing of their legacy E9-1-1 trunk groups from the legacy SRs providing 9-1-1 traffic to their legacy call answering positions. Each PSAP provided their traffic engineering data, trunk counts and type description (ISDN PRI, CAMA/MF, SS7, etc) and their call taker traffic loads and position requirements to the CSI ESInet Design Team. Each PSAP collaborated with the CSI ESInet Design Team to agree upon the appropriate number of IP work stations required and the date (as shown by the deployment schedule) that they will be required. The PSAP IP equipment will be configured according to this data Network Plan. Each PSAP will also provide the traffic engineering data and trunk/line counts and type description of all incoming, outgoing and 2-way trunks/lines between their PSAP and all other PSAPs to which they connect for the handling of cross-boundary calls, misrouted calls, and failover purposes. Each PSAP will collaborate with the CSI ESInet Design Team to agree upon the appropriate type and number of interconnections with other PSAPs required and the time that they will be required according to the deployment schedule in the new ESInet environment.

### **7.3 Preparation of Data Centers**

The Data Centers will be sized to accept the 9-1-1 traffic loads delivered to them by the Access Carriers, processed, and delivered to the appropriate PSAP. The equipment will be configured according to the data network Design Plan. The configured ESInet will be lab tested at an appropriate level and then field tested. Lab testing will include failover testing and evaluate any lost 9-1-1 calls during failover. When all tests are passed, the first access traffic load will be accepted and delivered to the appropriate PSAP/PSAPs in accordance with the deployment schedule. Subsequent migration will occur as specified in the deployment schedule.

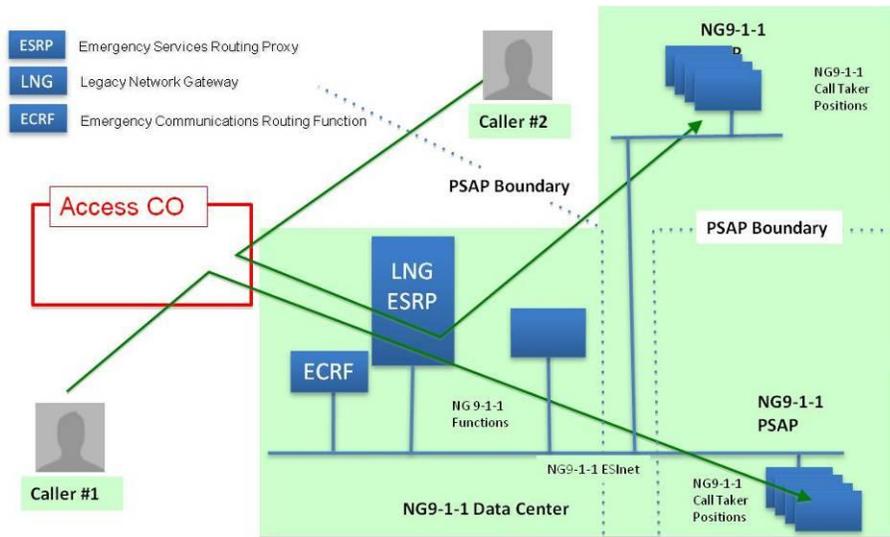
### **7.4 Cross Boundary Traffic**

There are two types of Cross Boundary situations. One is between PSAPs which are both on the ESInet. The second is for PSAPs that are outside the ESInet Boundary and are using Legacy PSAP Equipment to receive the bulk of their calls.

The Figure 7.1 shows the NG PSAPs inside the CSI ESInet boundaries. If for any reason a call ends up with one NG PSAP and the neighboring NG PSAP is inside the ESInet, the calls will be routed, bridged/transferred over to the proper NG PSAP and the whole set of data and call records will be routed along using the ESInet SIP Protocol.

The ESInet will recognize all of the incoming customer information even for those in split wire center boundaries inside the ESInet and the routing from the ECRF function inside the ESInet will send the call first time to the correct NG PSAP. If this happens the NG PSAP database may need to be checked for updates to customer records.

Most split central office exchange boundaries inside the ESInet become automatically resolved problems due to the capabilities of the ESInet architecture.

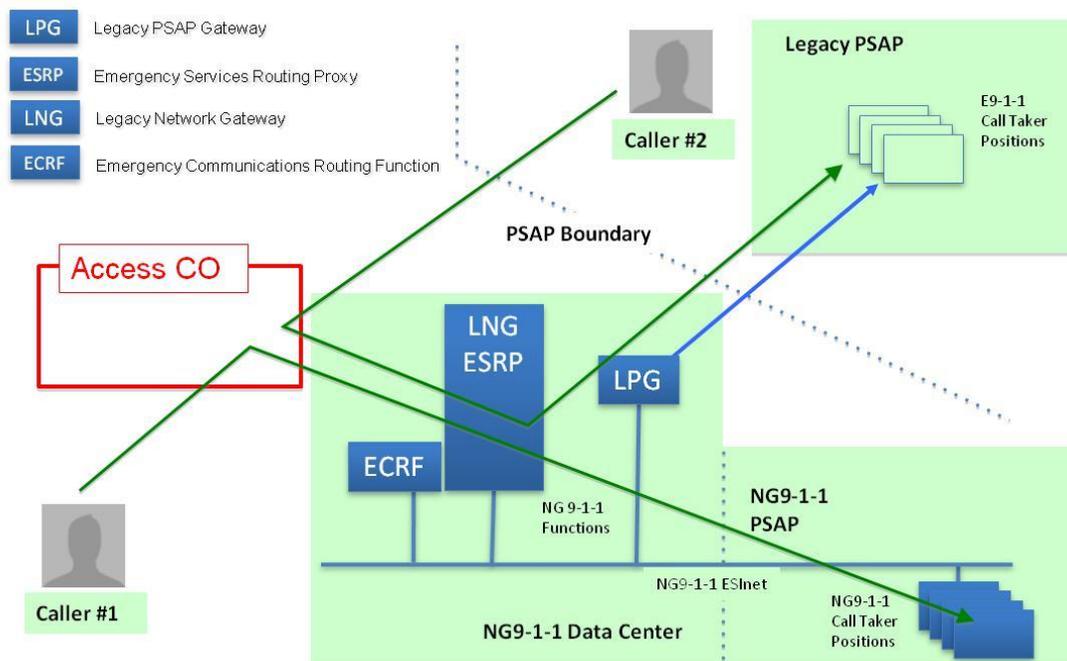


**Figure 7.1 - Data Center to NG 9-1-1 PSAP**

Figure 7.2 shows one NG PSAP inside the CSI ESInet boundary and one Legacy PSAP outside the ESInet boundary in an adjacent County. These calls come from Split Wire Centers or Exchanges at the boundaries.

In the provisioning process, CSI has agreed to accept MSAG and other records normally loaded into ALL Databases with the current system to be sent via FTP server 24 by 7 by 365 to CSI for updating records going forward. The details will be validated with Access Carriers as the detailed Database Exchange progresses. These records follow the NENA format and eventually there will be fewer records required as the customer devices get “smarter” and provide the Latitude and Longitude of the device that the caller is calling from over the SIP protocol end to end.

The records will be managed much like they are today, except the responsibility shifts from the Legacy SR provider to CSI. If a Carrier faxes Database records today, they can do that with CSI in the future. CSI has told each of the Carriers that whatever means they are using to provide records to Frontier, AT&T or Consolidated Communications, CSI will have an SLA and working process for records acceptance and assurance of accuracy. Field testing of calls will be important to test the process. CSI has asked the Access Carriers to participate in testing before the Cutover. CSI’s ETSB PSAP personnel and staff will be trained on the new systems.



**Figure 7.2 - Data Center to Legacy PSAP**

In the case of the Legacy PSAP there is a new FE on the chart called a Legacy PSAP Gateway, LPG. CSI is offering to place those FEs or a small subset called an Extended Gateway (EG) at no charge to the neighboring Legacy PSAP.

A small fraction of the calls will be managed this way. Each call will be logged and recorded with the ESInet logging and recording devices. Intergovernmental Agreements for call transfer exist today with the neighboring agencies. The agreements for NG9-1-1 call transfer will be written the same way; boiler plate language will be shared and signed off as required.

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Assuming at some point more ESInets are built in Illinois, the systems and ESInets automatically handle ESInet to ESInet call transfers without the extraordinary interim Transition arrangements. There are Functional Elements (FEs) called the ECRFs that have LoST protocols Private and Public LoST. The calls get identified by the ECRF "Public LoST" before being ESRP routed into an ESInet and therefore get routed and handled by the ECRF "Private LoST" to complete the calls to an ESInet PSAP. Refer to the Call Flow discussion in an earlier section of this document, and further details in the Design Plan.

## 7.5 Transfer Calls Out of the Network

There is a need to Transfer calls off-net. In this case, the database entries point the call to a PSAP on the ESInet but the responsibility for the call lies with an adjacent PSAP. The call is transferred off-net via the LPG. The receiving adjacent PSAP can rebid back through the LPG. The Figure 7.3 shows the call flow process.

### Transfer Out

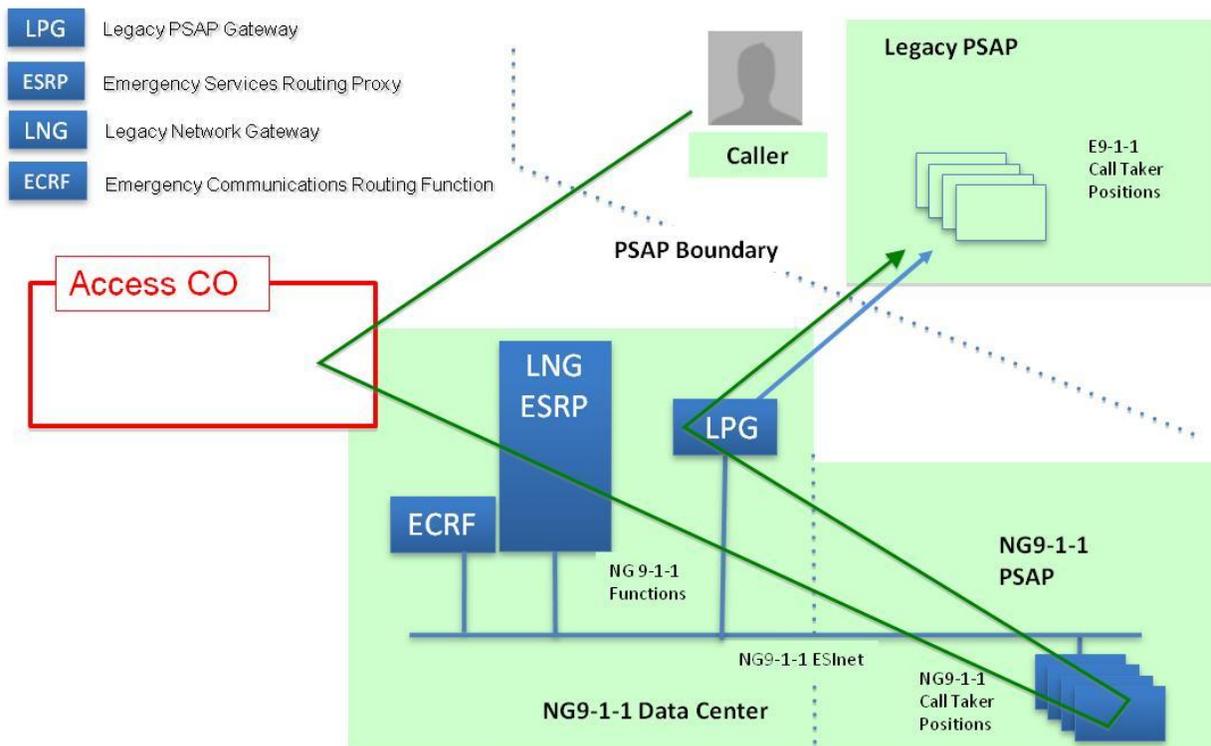


Figure 7.3 - Transfer Calls Out of the Network

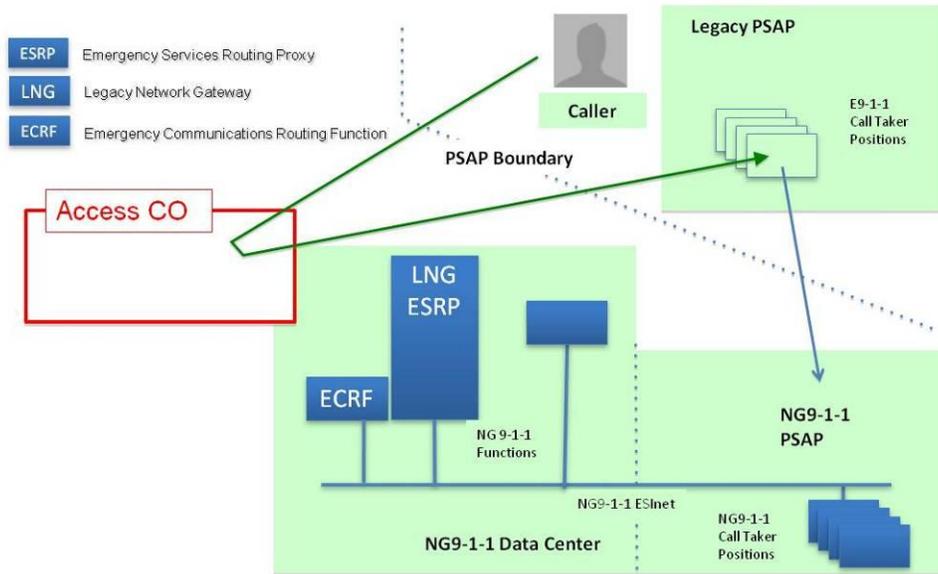
## 7.6 Transfer Calls into the CSI Network

The following Figure 7.4 shows the case where calls need to be transferred into the ESInet from a neighboring Legacy PSAP. Today those calls are handled with 10 digit call transfers or radio transfers.

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That 10 digit or radio transfer to the PSAP will have to occur into the near future. Direct PSAP to PSAP facilities have to remain in place if a call transfer is not desired using the PSTN. This is not a change of operation.

### Transfer In



**Figure 7.4 - Transfer Calls into the CSI Network**

### 7.7 Database Flow

In order to help the reader and access carriers understand the new i3 NENA Standards call flow, the following Figure 7.5 was added. Datamaster (Vendor) provided this Diagram.

Start with a LIS, a Location Information Services function. A LIS or its equivalent is required to support interactive validation functions, and is especially crucial to support “over the top” IP based originating services. The LIS is the equivalent of the ALI Data base in the new NENA i3 environment only it is much more. Refer to NENA i3 Standards Exhibit12.

When a call comes from an Access Carrier or Service Provider as shown below, it goes to the ESRP - Emergency Services Routing Proxy. The ESRP queries the pre-populated LIS Database and if needed goes to the MPC, Mobile Positioning Center/ Gateway Mobile Location Center System, or the VPC, the VoIP Positioning Center System to rebid and see if there is better location information; the ESRP queries the LoST Server going into the ECRF the Emergency Services routing Proxy to determine which PSAP is supposed to handle the call. The ESRP gathers all relevant information sending the call with the data to the PSAP for answering. In the ESRP architecture, the PSAP equipment does not do the data dip to the database.

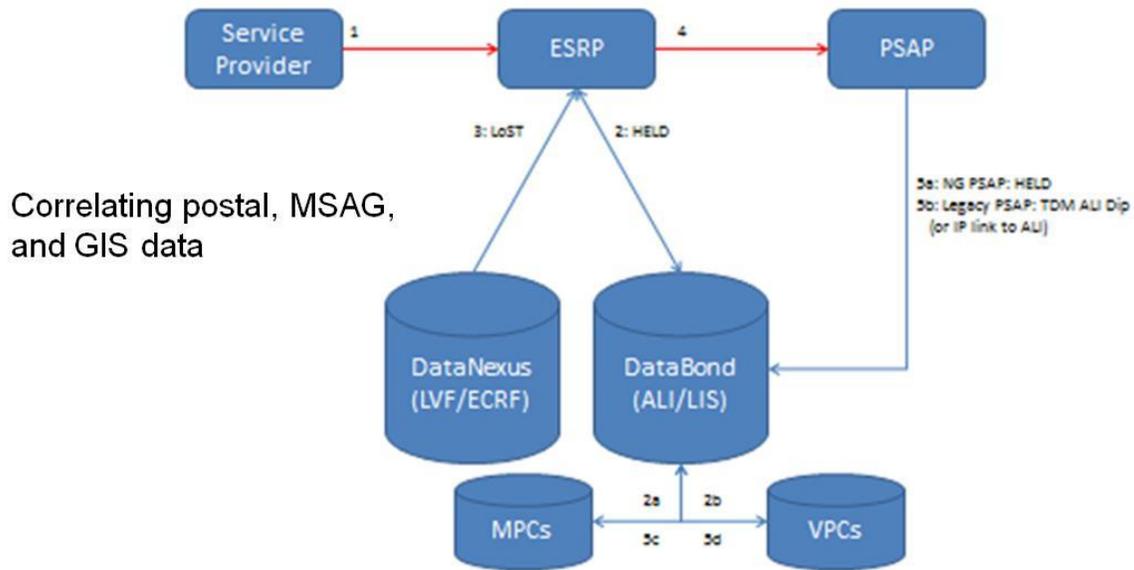


Figure 7.5 - Database Flow

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## 7.8 Recovery and Restoration

All ESInet configuration data and all database data will be backed-up and stored off-premise in two locations yet to be determined. One location will provide real-time restoration capability. On site backup of all configuration data will be maintained.

## 7.9 Gateways, Switching Equipment or Selective Routers

The Gateway functionality for incoming 9-1-1 calls resides in fully duplicated form in the two geographically separated Data Centers. The ESRP Gateways are the connection points for the Carrier Access Circuits after traffic comes through the Acme Packet SBCs.

The SRs' calls are migrating from are in Carbondale (Frontier), Mascoutah (Frontier), Olney (Frontier), Centralia ( AT&T), Bellville (AT&T), and Mattoon (ICTC – Consolidated).

## 7.10 Redundancy and Diversity

All components of the ESInet are fully duplicated for full redundancy. The core of the Clearwave network is a redundant ring architecture. Access trunking and the facility routes to the PSAPs are on diverse facilities where available. PSAP diversity is discussed in the Design Plan, PSAP by PSAP with timing.

Carrier Diversity is to be negotiated with the each Carrier. CSI has asked for Diverse Access. The Trunking ought to be the same from each end office to each Data Center. If the Carriers cut their trunks in half, should a single Data Center Fail, automatically only half of the Access 9-1-1 traffic can get to the ESInet. The Carriers were asked to connect their facilities and trunks directly to the 2 Data Centers in Murphysboro and Harrisburg and provide Circuit Order Layout Records and Contact information for 24 by 7 by 365 problem resolution and provisioning. Carriers were asked to provide a Forecast of growth for the new and existing services for up to 5 years. An annual review of actual traffic loads has been requested. This means carriers will be doubling their trunking at baseline from the beginning and their facilities.

## 7.11 Enterprise 9-1-1

The ESRP Gateway equipment being deployed by the vendor into the CSI Data Centers is capable of accepting ISDN PRI, SIP, SS7, CAMA and MF interconnections from Enterprise PBXs according to the NG9-1-1 standards. CSI has not identified any Enterprises who require such an interface during the Pilot Program.

PS/ALI entry is available via a web based application.

## 7.12 Traffic Engineering

ESInets should be designed to provide non-blocking service for high priority traffic. Bandwidth, Traffic Policing, Traffic Shaping and Quality of Service are some of the main design considerations which must be taken into account. This section describes some of the caveats to be avoided and best practices that should be observed with regard to traffic engineering in ESInets.

CSI has made a data request to all known Access Carriers in the footprint.

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### Dimensioning ESInet Data Circuits

Traditionally, bandwidth sizing requirements for wide area networks are based on the bandwidth requirements of the applications being utilized on that network. One of the challenges of designing ESInets today is that some of the applications that are expected to be implemented may be outside 9-1-1 and others are yet to be developed.

### Traffic Policing

Some of the layer 2 technologies that can be utilized to provide transport for ESInets require that the traffic that is being sent into the network conform to a number of requirements including peak and sustainable cell/packet rate. Traffic that exceeds the rate purchased from the service provider may be discarded immediately, marked as non-compliant, delayed, or left as-is, depending on administrative policy and the characteristics of the excess traffic.

### Traffic Shaping

Traffic shaping is commonly applied at the network edges to control traffic entering the network. Traffic shaping is frequently required when the port speeds exceed the amount of bandwidth purchased from the service provider. For example, assume a 10 Mbps Metro Ethernet service is purchased from a service provider. If the 100 Mbps Fast Ethernet port of a router is connected to that circuit, in many cases even though the data being transmitted over a period of 1 second is less than 10 Mega-bits, the router (transmitting at 100Mbps) will exceed the rates deemed acceptable by the service provider and packets will be dropped.

NENA: *“When port speeds are not equal to the amount of bandwidth being purchased from the service provider, it is a best practice to configure traffic shaping on the routers to ensure that the traffic being transmitted is in compliance with the traffic contract.”*

### Quality of Service (QoS)

Quality of service is the ability to give priority to different data flows. In ESInets QoS is implemented by configuring routers and other network elements to respect DiffServ Code Points (DSCPs) as defined in RFC 2475.

Per the Detailed Functional and Interface Standards for the NENA i3 Solution Version 1.0 (NENA 08-003)

- Functional Elements must mark packets they create with appropriate code points.
- The BCF must police code points for packets entering the ESInet.
- The following code points and Per Hop Behaviors (PHB) must be used on ESInets:

DSCP	Use	Per Hop Behaviors (PHB)
0	Routine Traffic	Default
1	9-1-1 Signaling	AF 12
2	9-1-1 Text Media	AF 12
3	9-1-1 Audio Media	EF
4	9-1-1 Video Media	AF 11
5	9-1-1 Non Human initiated Call	AF 21
6	Intra ESInet Events	AF 21
7	Intra ESInet Other 9-1-1 Traffic	AF 22

See RFC 2475 for a detailed description of DSCP and PHB mechanisms and functionality.

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## 7.13 Comprehensive Test Plan

The Test Plan is being provided in a separate document, Assure911-NG911CSI-STP-001. It should be noted that no live 9-1-1 calls will be involved at any stage of testing until Cutover.

## 7.14 Network Management and Monitoring

The ESInet and NG9-1-1 systems require a large degree of reliability in order to maintain the high-availability that the public has come to rely on when communicating with emergency responders by dialing 9-1-1. Designing the ESInet with multiple diverse interfaces, sufficient bandwidth capacity, and redundant hardware to eliminate single points of failure can increase its overall level of reliability. However, because of a host of potential unforeseen circumstances and the possibility of human error, high availability requires more than the network design alone. An effective monitoring plan is needed.

Proactive monitoring and responding to faults as well as performance degradations that may interfere with completion of attempts by callers and smart devices to communicate with call takers adds to reliability. It may appear complicated as different aspects of the ESInet and NG9-1-1 System will be procured from a wide variety of suppliers. Service providers for the underlying IP network, carriers bringing calls into the system, the NG9-1-1 equipment itself can all play a part in exchanging data needed to effectively monitor the end-to-end system.

### 7.14.1 NENA Network Management and Monitoring Design Requirements

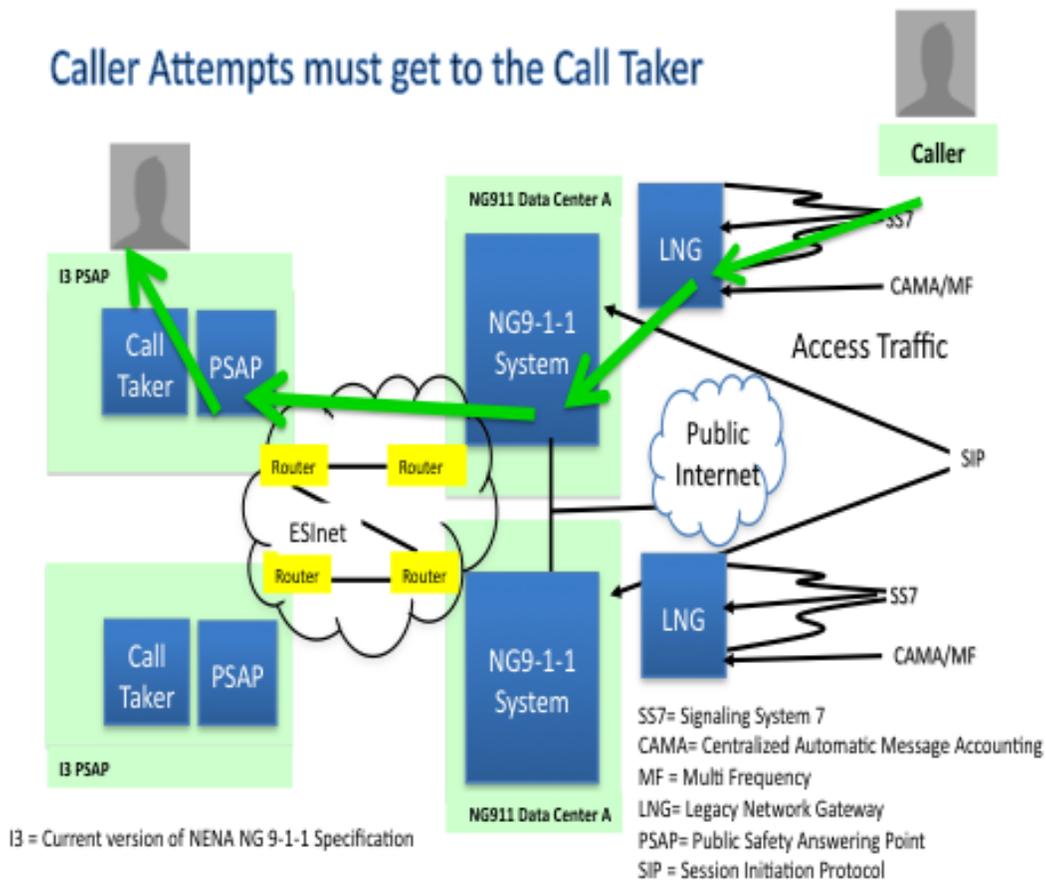
The NENA Board approved the ESInet Design for NG9-1-1 NENA 08-506, Version 1, standard which includes a section regarding network alarming recommendations (SS 3.6):

*NENA: "Critical circuits for E9-1-1 calls (i.e. PSAP trunks and ALI circuits) are monitored. Outages may be FCC reportable. By the same token ESInet(s), which provide transport for emergency 9-1-1 calls, should also be monitored."*

The various providers of underlying facilities have their own surveillance systems for monitoring circuits that they are providing to CSI. CSI is asking that information critical to these services be shared with us using a patented approach that is incorporated into the Assure911 monitoring system.

*NENA: "Although there are no reporting requirements in current regulation, discussion of such regulation is underway and 9-1-1 entities should be prepared to report ESInet outages to relevant authorities."*

Every event that occurs is captured by the system being deployed for CSI. Reporting requirements that must be by existing 9-1-1 system providers in the legacy selective router environment can be met by CSI.

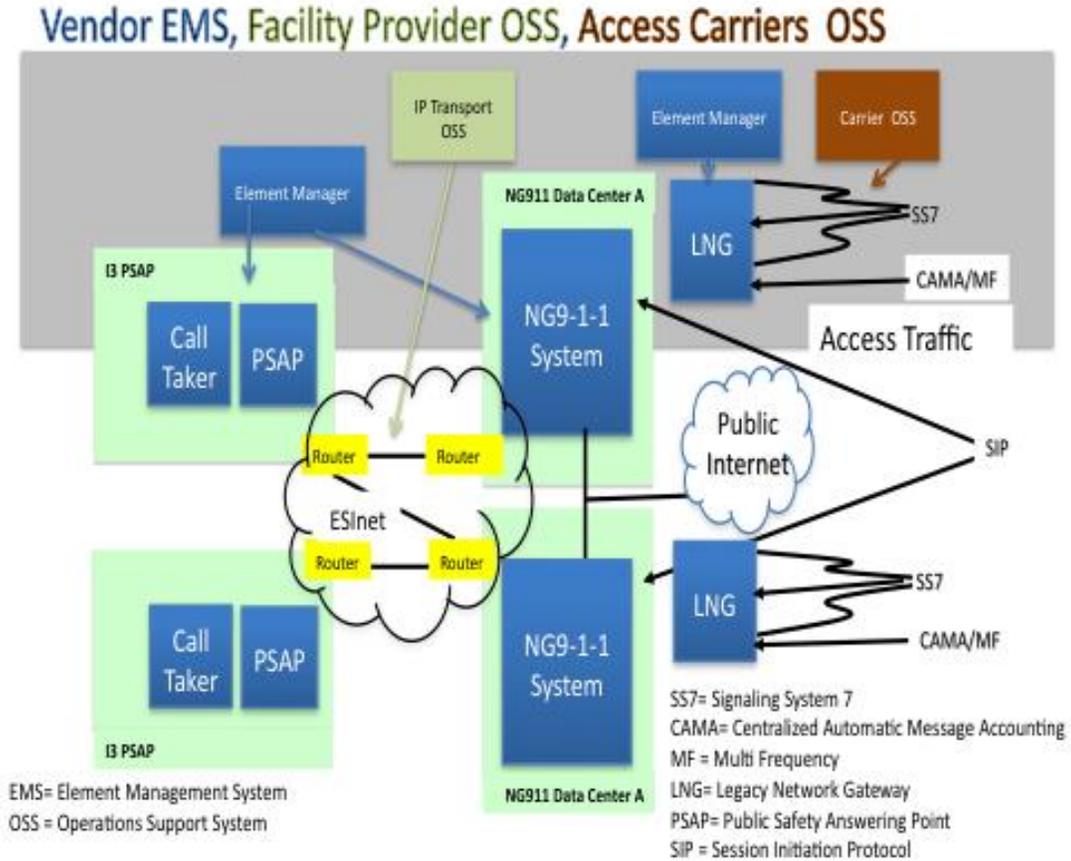


**Figure 7.6 – End to End Service View**

NENA: "All data circuits and network components which comprise an ESInet should be monitored. All network components should provide SNMP traps to an approved management system."

NENA: "Vendors of all operational network components that form an ESInet should provide an SNMP MIB (management information base) for each component to organizations authorized to operate SNMP management systems. At least one SNMP based network monitoring system should be implemented by an organization with access to the resources necessary to perform effective network maintenance services. Vendors of all non-network components such as NG9-1-1 application servers should also be encouraged/required (RFP requirement to be supported by SLA) to provide element managers for their products. This would allow a network management system to monitor all of the network and applications components necessary for the reliable operation of NG9-1-1 on an ESInet. Companies that connect to the ESInet for the purpose of monitoring and/or management of devices should be NG-SEC compliant."

CSI plans to deploy the Assure911 Monitoring solution as part of their network architecture. CSI acknowledges the requirements of the Design document with respect to effective Network Management. NG911, Inc. will be monitoring the performance of the CSI ESInet. Frontline monitoring will be done by CSI's IT organization. CSI understands and will be compliant with the ICC and FCC reporting requirements for outages affecting 9-1-1 service.



**Figure 7.7 – End to End View Participants**

### 7.14.2 Network Monitoring Approach

Effective network management requires:

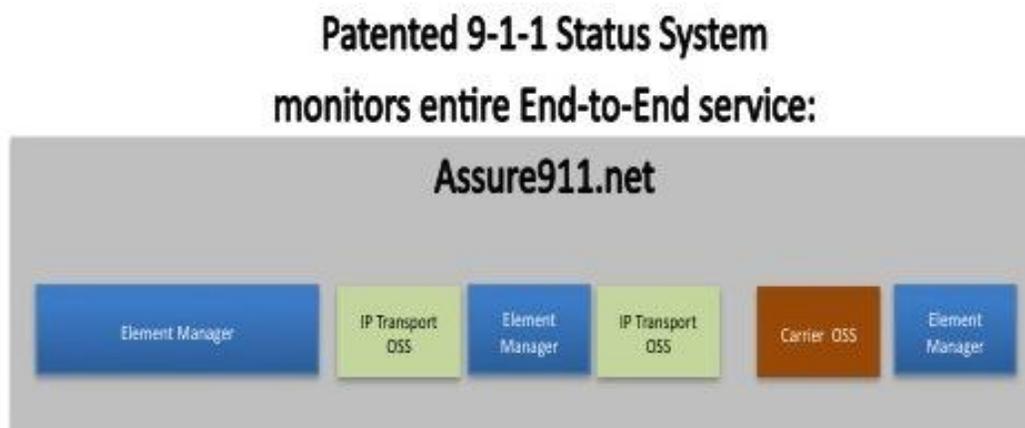
- Proper/accurate documentation of the network
- Current network diagrams
- IP address range management/assignments
- Demarcation points
- Contact and Escalation lists – Vendor, Service Provider, NOC
- Near real time monitoring/alarming
- SLA benchmarks
- Capacity management / Trending Analysis
- Monitoring the state of element configuration (i.e. QoS)
- Configuration Management / Change Control

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Some of the methods above can be used to measure SLA metrics, but may not be reported to the end user.

Assure911 will provide software that performs end-to-end monitoring of the CSI ESInet and NG911 System, including:

- Data collection from devices that comprise the CSI ESInet and NG9-1-1 System
- Identification of adverse conditions in real-time when possible, subject to the capabilities of the target device or intervening element management system.
- Adverse conditions can be viewed on browser-based displays and handheld smart device applications.
- Notification of adverse conditions to personnel via text message, email.
- Real-time and historic reporting of raw data and adverse conditions.



**Figure 7.8 – Assure911 Monitoring Solution**

CSI ETSBs are responsible for proactive reporting to the ICC when there is an outage in their area affecting 9-1-1 services. Major access carriers, those with Selective Routers today, provide reporting to both the ICC and the FCC when there are outages affecting 9-1-1 services. The initial reporting times and service levels requiring a report varies between the two bodies. In any event, if there is a requirement in the future for additional reporting by CSI ETSBs as the 9-1-1 Gateway provider who replaces the role of the Selective Router in their ESInet, the solutions being deployed will provide data and timing for the reporting process.

The systems that make up the NG9-1-1 FEs all have information that will go to CSI for reporting capabilities. The majority of the reports assist the ETSBs in managing their responsibilities and to detect and resolve any issues in their centers. Reports can be built for external purposes and managed according to the rules and regulations specified by the Commissions. Assure911 has history of providing proactive monitoring tools to assist major wireline and wireless carriers in their Commission reporting role. More importantly the tools assist in detecting a situation within the architecture that is simplex and/or can lead to a service outage before it affects the public. This proactive tool set will be applied to the CSI ESInet. The first place such tool set was deployed in a 9-1-1 PSAP environment in the Chicago OEMC in 1997. The system being deployed by Assure911 uses a patented approach to proactive, end-to-end monitoring.

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## 8.0 NENA PLANNING GUIDANCE

The NENA standards provide good direction for the planning process. The *"Next Generation 9-1-1 Transition Policy Implementation Handbook"*<sup>1</sup> dated March 2010, outlines the steps necessary for a Transition to NG9-1-1. The document includes check lists and useful information for project managers.

Page 11 under "NG9-1-1 Transition Policy Issue Number Three states that the *"NG9-1-1 will not be deployed in a flash cutover. With that reality in mind, it is imperative that the 9-1-1 authorities at every level - as well as industry - begin now to lay the foundation for NG9-1-1 by facilitating the deployment of "dual-mode" capabilities in networks and/or IP-enabled PSAPs that can translate between the legacy circuit switched environment and the next generation environment. This will be a significant issue as NG9-1-1 will not be deployed as a single nationwide project."*

The *"Next Generation 9-1-1 Transition Policy Implementation Handbook"* is a comprehensive general reference. It addresses many of the Public Policy issues outlined by the Illinois Commerce Commission.

The NENA documents reference the role of the Federal and State agencies in the planning process.

A Cutover Plan will be documented pending negotiation with the Access Carriers, underlying network providers and vendors.

## 8.1 ICC and Outage Reporting

CSI's Board of Directors is delivering the Design Plan to the Illinois Commerce Commission (ICC). Authorized Pilot, reference: *"Project Public Act 096-1443, HB4990, Enrolled LRB096 18572 MJR 33954 b, AN ACT concerning utilities."* Other Exhibits will outline the request to the ICC for approval of the Pilot Project.

### ICC: Outage Reporting Requirements

Note: Current ICC rules do not require a Public Safety Agency to make 911 Outage Reports. Carriers are required to make a report. CSI is willing to report additional 911 outage information in the future if CSI becomes a 9-1-1 SSP. CSI will be monitoring their ESInet and related FEs and maintain a log of all simplex and duplex outages affecting 9-1-1.

URL for ICC Reporting Requirements: <http://www.icc.illinois.gov/Telecommunications/CodePart725.aspx>

Reference:

"TITLE 83: PUBLIC UTILITIES  
CHAPTER I: ILLINOIS COMMERCE COMMISSION  
SUBCHAPTER f: TELEPHONE UTILITIES

PART 725  
STANDARDS OF SERVICE APPLICABLE TO 9-1-1 EMERGENCY SYSTEMS

### Section 725.100 Application of Part

This Part shall apply to all public agencies, public safety agencies, and telecommunications carriers in the State of Illinois except to the extent of any exemptions conferred by law.

<sup>1</sup> *"Next Generation 9-1-1 Transition Policy Implementation Handbook"* NENA standards dated March 2010

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## SUBPART B: AUTHORIZATION TO OPERATE

### Section 725.220 Records and Reports

a) The system management shall maintain those records it considers necessary to document its operations and satisfy the requirements of interagency agreements. As a minimum, those records shall include:

2) critical equipment outages; and

b) The records specified in subsection (a) shall be preserved for a minimum of one year.

c) The system management shall be required to file with the Commission's 9-1-1 Program, the Commission's Chief Clerk's Office and the Illinois Attorney General by January 31 the following items:

- 1) the current 9-1-1 contact person for the 9-1-1 system;
- 2) the current error ratio for the E9-1-1 database;

(Source: Amended at 28 Ill. Reg. 15742, effective December 1, 2004)

## SUBPART D: STANDARDS OF SERVICE

### Section 725.400 General Standards

f) The 9-1-1 database shall have the capability of allowing non-emergency database queries provided the following procedures are adhered to:

5) Direct database queries shall not adversely affect the normal operation of the 9-1-1 system. Direct database queries shall be limited to off-peak times. Direct database queries shall be suspended during any incident that could possibly result in a number of calls from the public being made to 9-1-1. Direct database queries shall not be made if there is any known outage or impairment in the database system, including a database data link outage. Direct queries shall also be suspended if there is any abnormal lag or delay noticed in receiving responses to database queries, or if notified to cease queries by telecommunications carrier personnel. The telecommunications carrier shall treat notification of 9-1-1 system management of database query suspension as a priority. Where practicable, this notification by the telecommunications carrier to 9-1-1 system management shall be made not later than fifteen minutes after a confirmed incident or event that will cause database queries to be suspended.

g) The system management shall be responsible for the compliance of these standards, overall management, security and coordination of the 9-1-1 system.

j) Each E9-1-1 system shall have only one 9-1-1 system provider that shall provide the overall 9-1-1 database and selective routing network and associated duties for the entire system. In addition, the 9-1-1 system provider shall assume the lead role in coordinating entire projects for each telecommunications carrier in conjunction with 9-1-1 system management. Responsibilities of the 9-1-1 service provider shall include, but not be limited to:

5) Providing notification of errors to the appropriate entities within 24 hours for corrective action

(Source: Amended at 28 Ill. Reg. 15742, effective December 1, 2004)

## SUBPART E: ENGINEERING

### Section 725.500 Telecommunications Carriers

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n) Prior to a 9-1-1 system going on-line, each telecommunications carrier is responsible for having in its records a contact number for each PSAP in the event of outage or failure of a 9-1-1 system.

q) Each telecommunications carrier shall adopt practices to notify a primary point of contact within a 9-1-1 system within 15 minutes after a confirmed outage within the system and to also advise the primary point of contact as to the magnitude of the outage. If more than one 9-1-1 system is served out of a central office, the telecommunications carrier shall make notification to a primary PSAP within each 9-1-1 system affected.

r) Each telecommunications carrier shall adopt practices to notify a primary point of contact within a 9-1-1 system within 15 minutes after the confirmed restoration of 9-1-1 services.

(Source: Amended at 28 Ill. Reg. 15742, effective December 1, 2004)

#### Section 725.505 Public Safety Answering Point

h) System management shall provide continuous and uninterrupted operation to the persons within the system's boundaries 24 hours per day.

q) System management shall adopt practices to ensure the following:

2) In instances where a call box is situated in split telecommunications carrier exchanges (an exchange shared with more than one 9-1-1 system or jurisdiction), procedures shall be developed by the 9-1-1 systems involved to respond to the call box in instances of outages or disasters;

3) That when a primary point of contact is notified by telecommunications carrier personnel that an outage has occurred in a 9-1-1 system, the PSAP being notified must make notification to other PSAPs in the 9-1-1 system that is affected by the outage; and

u) It shall be the joint responsibility of the 9-1-1 system and the telecommunications carrier to ensure that the error ratio of each 9-1-1 system's database shall not, at any time, exceed 1%.

v) Each PSAP should answer 90 percent of all 9-1-1 calls within 10 seconds.

(Source: Amended at 28 Ill. Reg. 15742, effective December 1, 2004)"

Conclusion: CSI is in compliance with Part 725 PSAP requirements today and will maintain those requirements as required by the ICC and any updated for NG 9-1-1. The ICC specifically requires the telecommunications Carriers most of the Network Outage Reports and manage the Database according to Part 725 especially during overload stress and times of outage. If and when there is a legal requirement for CSI to report to the Commission about outages in the ESnet regarding 9-1-1 services, CSI will comply. Specifically Outage Reporting for Part 725.500 sections n, q and r. The ESnet systems will provide the CSI team with real time information to make the ICC reports resolve the problems or reach the correct parties to resolve the situation and restore service. Rational for the service disruption will be reported once a root cause analysis is conducted and the facts are available to final a final report. Reports will be filed in the manner and format the Commission designates in the timeframe required by law.

## 8.2 FCC and Outage Reporting

CSI has asked for guidance of NENA and the FCC Department of Homeland Security Attorney Patrick Donovan and the FCC staff.

Current FCC rules do not require a Public Safety Agency to make an Outage Report. Carriers are required to make a report. CSI will to make reports in the future should they be legally required.

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URL for FCC Reporting Requirements: <http://transition.fcc.gov/pshs/services/cip/nors/nors.html>

“Overall FCC rules  
[Code of Federal Regulations]  
[Title 47, Volume 1]  
[Revised as of October 1, 2010]  
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TITLE 47--TELECOMMUNICATION  
CHAPTER I--FEDERAL COMMUNICATIONS COMMISSION

PART 4\_DISRUPTIONS TO COMMUNICATIONS--Table of Contents

Sec. 4.5 Definitions of outage, special offices and facilities, and 911 special facilities.

(a) Outage is defined as a significant degradation in the ability of an end user to establish and maintain a channel of communications as a result of failure or degradation in the performance of a communications provider's network.

(b) Special offices and facilities are defined as major military installations, key government facilities, nuclear power plants, and those airports that are listed as current primary (PR), commercial service (CM), and reliever (RL) airports in the FAA's National Plan of Integrated Airports Systems (NPIAS) (as issued at least one calendar year prior to the outage). The member agencies of the National Communications System (NCS) will determine which of their locations are “major military installations” and “key government facilities.” 911 special facilities are addressed separately in paragraph (e) of this section.

(e) An outage that potentially affects a 911 special facility occurs whenever:

(1) There is a loss of communications to PSAP(s) potentially affecting at least 900,000 user-minutes and: The failure is neither at the PSAP(s) nor on the premises of the PSAP(s); no reroute for all end users was available; and the outage lasts 30 minutes or more; or

2) There is a loss of 911 call processing capabilities in one or more E-911 tandems/selective routers for at least 30 minutes duration; or

(3) One or more end-office or MSC switches or host/remote clusters is isolated from 911 service for at least 30 minutes and potentially affects at least 900,000 user-minutes; or

(4) There is a loss of ANI/ALI (associated name and location information) and/or a failure of location determination equipment, including Phase II equipment, for at least 30 minutes and potentially affecting at least 900,000 user-minutes (provided that the ANI/ALI or location determination equipment was then currently deployed and in use, and the failure is neither at the PSAP(s) or on the premises of the PSAP(s)).”

Conclusion: The FCC Outage reporting language for 9-1-1 outage reporting is not up to date with the NG9-1-1. Two areas overlap with new responsibilities being assumed by CSI:

1. CSI will be providing the equivalent of the Selective Router function.
2. CSI will be providing the function which is equivalent to the ALI Data base.

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CSI will be monitoring Outages that affect the ESInet capabilities to serve as a tandem for 9-1-1 calls routing to the PSAPs. CSI will be monitoring the ability to provide database access to for the NG PSAPs for calling party location identification. CSI will treat their responsibilities as seriously as any Carrier in terms of service restoration. Given the reasonable comparable loads for 911 on the ESInet in CSI's area of responsibility, it is unlikely CSI would ever break the FCC threshold for reporting blocked calls in the 30 minute period for 9-1-1. A dual outage of a CSI Data Center housing the equivalent of the SR function is highly unlikely. In the event dual SR outages did occur, CSI could provide notification to the FCC if legally required assuming they are authorized to access the FCC Reporting System. All 911 related service failures whether they are simplex or duplex will be documented and managed proactively.

By the same token ESInet(s), which provide transport for emergency 9-1-1 calls, will be monitored. All data circuits and network components which comprise an ESInet should be monitored. All network components should provide status data to the appropriate vendor management system.

Refer to the Clearwave Network Operations Plans. Clearwave provides the underlying Layer 1 and 2 architecture for the CSI ESInet.

### **8.3 Persons with Disabilities**

CSI ETSBs will retain all equipment and capabilities in place to accept calls in compliance with the American Disabilities Act. There is an expected update to the American Disability Act. Given the comments received, there is a possibility that the Department of Justice will require PSAPs to support video in NG9-1-1. However, no draft of new rules was available at the time the NENA Standard Draft or at the time Design document was published.

Any new rules promulgated by the Commission regarding persons with disabilities and texting will be supported within the CSI ESInet capabilities once the standard is defined.

### **8.4 VoIP to SR**

CSI plans to send a request for waiver draft to the FCC staff to allow a VoIP Carrier to connect to an ESInet Functional Element rather than to a Legacy Selective Router.

### **8.5 Wireless to SR**

CSI plans to send a request for waiver draft to the FCC staff to allow a Wireless Carrier to connect to an ESInet Functional Element rather than to a Legacy Selective Router.

### **8.6 Interconnection**

We assume the Access Carriers must meet CSI at the 2 Data Centers for NG9-1-1.

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## 9.0 ACCESS ASSUMPTIONS

ESInet major components will be located at the two CSI Jackson County Sheriff's Office - Murphysboro and Saline County Sheriff's Office - Harrisburg Data Centers. This will include all servers, racks, UPS, network components, telephone equipment, cabling, and monitors.

Each Access Carrier has been given an option for signaling and trunking. Options include MF, SS7, and ISDN PRI and SIP trunk signaling.

SIP is a preference for the Pilot Project and the ESInet connectivity going forward. At least two (2) RLECs have stated they have Softswitches, from different manufacturers. In early meetings they indicated a willingness to send 9-1-1 calls via the SIP option: Carriers Egyptian Telephone and Shawnee Telephone. Clearwave as a CLEC is deploying a Softswitch which may use SIP signaling for NG 9-1-1 access. Intrado is working with their Wireless and VoIP clients, and consideration is being given to SIP trunking at or shortly after the Pilot Project begins.

This project would be a first application in Illinois of SIP for 9-1-1 access. The Access Providers will provision trunk groups to each of the 2 CSI ETSB Data Centers in order to facilitate testing and eventual cutover. The existing PSTN trunking will remain in place until a successful cutover has been tested and the cutover is authorized.

### 9.1 Service Level Agreements

Carriers and Public Safety agencies will have documented 9-1-1 Service Level Agreements in place before provisioning, testing and call completion activities begin. These agreements will specify provisioning intervals, database delivery, maintenance hours, service quality expectations, and will meet state and federal requirements for customer service.

***This requirement is part of the ongoing negotiations between CSI and the Access Carriers.***

NENA: *"Service impact levels are typically used to define the severity of the outage denoted by some range of values (e.g.1 through 5). Failure to meet agreed upon service impact levels may result in pre-negotiated financial penalties to the vendor/service provider.*

*ESInets are complex and may involve management of SLAs from a number of different vendor/service providers. Best practices include:*

- *Where multiple service providers are involved, there should be a demarcation point that defines the boundaries of responsibilities as described in an agreement.*
- *Obtain or establish the MTTR for each piece of equipment used in an ESInet as well as an SLA for the network service. To maintain reliable service and ensure efficient testing, benchmarks should be established, documented, and periodically reviewed for accuracy.*
- *Contracted levels of service should be established to ensure adequate response times for repair.*
- *To minimize downtime critical hot spares should be identified, purchased, and maintained on site.*
- *Maintenance should include regularly scheduled audits of hardware revision levels and code compatibility (including firmware) with hardware revisions.*
- *Redundant systems should be regularly exercised by deliberate fail-over as part of routine maintenance.*
- *Escalation paths should be documented and known to the 9-1-1 entity so that responses to failures can be adequately addressed."*

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## 9.2 Cutover Plans

CSI is recommending the following high level processes and implementation steps for the NG9-1-1 Cutover Plan:

### 9-1-1 Cutover Process

The Cutover process will involve the existing Selective Routers along with 21 PSAPS. The existing 21 PSAPS will be retrofitted with new hardware to accommodate NG 9-1-1 Calls, Legacy and/or SIP. After installation, the equipment will be acceptance tested for the ability to handle the new traffic. A cutover schedule will be developed that will include all activities: establishing the Trunk Groups, SS7 Links, equipment installation pre and post testing. A Cutover Strategy (Assure911.net-CSI/NG911-STP-002) will be provided as a separate Exhibit to be filed with the ICC.

For the End offices requiring SS7 connectivity to the ESInet both CLLI information and Point Codes must be reserved. SS7 A-Links, or F-Links will need to be equipped and tested. Trunk groups from the Wireline, Wireless, VoIP and CLEC facilities based Carriers will need to be implemented and tested to the new ESInet. It is critical that initial traffic data and signaling requirements are acquired in a timely fashion to determine the number of trunks per trunk group as well as the overall scope of work.

Pre testing capabilities will be required and will include a preliminary test database. This will be required from each Carrier/End Office to initiate preliminary 9-1-1 test calls. The PSAPs will be notified of the pretest schedule. Communication and coordination of all activities is essential for successful cutover of each Carrier

### Pre Cutover

- Identify the Selective Routers and PSAPS involved in the Cutover and notify PSAPs at least 30 days in advance
- Establish carrier end office facilities to the new ESInet Gateway
- Identify Signaling requirements and number of trunks
- Develop Method of Procedure (MOP) for Cutover including contacts
- Develop back out and contingency plan

### ESInet Cutover

- Place initial 9-1-1 test calls to verify existing configuration is working to the appropriate primary and secondary PSAP
- Verify New Trunk Groups are Active
- Reroute originating translations to the new ESInet trunk groups
- Place 9-1-1 test calls over new route configuration
- Verify appropriate PSAP answers and verify location information

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- Execute complete 9-1-1 test plan following a detailed for Conversion.
- Determine the role of the SR trunking before, during and post cutover.
- Determine the viability of the Split exchange plans, test them before and validate them during cutover.

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## 10.0 CONCLUSION

The Counties of Southern Illinois ESInet is a standards-based network, designed to accommodate calls from the PSTN technology as well as advance services offered today and in the future. The system is secure, redundant and resilient and is a significant improvement over the current 9-1-1 systems that serve the Public Safety Agencies in Southern Illinois represented by the CSI 16 ETSBs.

The system designed as part of the CSI project meets the ICC requirements and complies with Illinois Statutes. This project brings improved 9-1-1 to the citizens of southern Illinois, to improve public safety and save lives.

Meetings with Access Carriers and CSI representatives are a critical part of the Path forward. CSI requests the ICC establish a timeline for Public Safety Agency and Access Carrier compliance and enable and encourage CSI and the Carriers to move forward in a cooperative fashion.

## Attachment 1 - Access Carriers Data Exchange Form

Master Document Shared with Each Carrier  
in Meetings and on Conference Calls

<b>Table Design Plan – Carrier Access Baseline Data Model</b>							<b>Wireline Wireless CLEC VoIP</b>
<b>Company Category</b>	Wireline w/SRT	Wireline ILEC w/o SRT	Wireless w/MTSO	CLEC	VoIP (Add)	STP Provider (Add)	
	TBD	TBD	TBD	TBD	TBD		
<b>SRTs CLLI/ Address/ Carrier</b>		Add	Add				
<b>STPs CLLI/ Address/ Carrier</b>	Add	Add	Add				
<b>Name/ Reach Info</b>	Sales Contact Info		Engineering Contact Info		Operations Contact Info		Other Contact Info
	Add		Add		Add		
Notes: Data Collection to complete NLT August 25. Call or email OK.							
This Master Table was revised based on additional requirements from the Gateway Vendor and the SS7 Provider chosen by the 16 ETSBs. Please migrate the Carrier Data to this revised format.							
Complete a line for each of the end offices – add footnotes for any unique characteristics of the company network in general. Preferences and cost recovery issues. Provide maps or supporting data if it helps clarify the issue. There are added worksheets below.							
Note: Data sent in July was inserted to begin the documentation of Data Exchange where it was received. Please help us verify and complete data entry by August 25.							
Originating 911 End Office Location	County/ Street Address	CLLI/ Type of Originating Office	SS7 Point Code Y/N and if Y, PC	SIP Capable Y/N; and if Y, IP Address	Number 911 Trunk Groups /Legacy SRT Carrier/ Location(s)	Number of 911 trunks per group/ Signaling	9-1-1 Busy Day/Busy Hour/BH Peg Count, Usage (CCS), Overflow Holding Time , 10 High Day Data same as above
Note: If split between Counties by County enter info							

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and Identifier					
Current	Add	Current: Add	Current: Add	Current: Add	Current: Add
2011		Pilot:	Pilot:	Pilot:	Pilot:
2012		Planned:	Planned:	Planned:	Planned:
2013		Planned:	Planned:	Planned:	Planned:
2014		Planned:	Planned:	Planned:	Planned:
CLLI of Switch/ Identifier	Number of access lines	Switch Type i.e. DMS 100 or 5ESS Host or Remote	Trunk Groups 9-1-1: 0,1 or 2	Signaling to 9-1-1	Trunks to 9-1-1 per group
Current	Add	Current:	Current:	Current:	Current:
2011		Pilot:	Pilot:	Pilot:	Pilot:
2012		Planned:	Planned:	Planned:	Planned:
2013		Planned:	Planned:	Planned:	Planned:
2014		Planned:	Planned:	Planned:	Planned:
CLLI of Switch/ Identifier	Number of access lines	Switch Type i.e. DMS 100 or 5ESS Host or Remote	Trunk Groups 9-1-1: 0,1 or 2	Signaling to 9-1-1	Trunks to 9-1-1 per group
Current		Current:	Current:	Current:	Current:
2011		Pilot:	Planned:	Planned:	Planned:
2012		Planned:	Planned:	Planned:	Planned:
2013		Planned:	Planned:	Planned:	Planned:
2014		Planned:	Planned:	Planned:	Planned:
Continue until completed					

Worksheet for Traffic Engineering Data Exchange- extend row from the Central Office							
Current 911 Trunk Group Name*	911 Maintenance Window	Busy Hour/Busy Day	CCS (Usage) in hundred call seconds	Peg Count	Overflow or Blocking	Holding Time of average 911 Calls	10 High Day of Central Office
CLLI/ C.O.							

Note: The trunk group name and the trunks with, signaling, transport data must be given to Gateway Switch within next 2 weeks for data fill. August 25, 2011.

Reference for Table above:

1. Location Address, CLLI for Switch as published by Telcordia in the LERG
2. Legacy Trunking for 911 calls MF/CAMA/SS7 – specify the type of trunk signaling you use today for accessing the legacy SRT(s)

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3. SIP Trunking capable, i.e. SoftSwitch, SIP Trunking, i.e. DMS 100 with SIP Trunking capability or  
Soft Switch with SIP Trunking – if interested in migrating to a different trunk signaling SS7 Point Codes/IP Addresses
4. Number 911 Trunk Groups /Type Signaling /Legacy Gateway Location; i.e. in the ideal Legacy design there are 2 SRTs for each Access End Office, one active and the second standby. In most of the Southern Illinois locations only a single SRT exists per LATA. In the NG9-1-1 Design, the standard access for 911 trunking is to diversely route to two (2) ESRP Gateways, housed in each CSI Data Center. Both ESRPs will be in an active mode, thus load sharing and load balance is a part of the new routing for the Design Plan.

Note: In the case of much of Southern Illinois, this doubles the 911 trunk group requirements. This question is designed to learn more about the impact to the Access Carriers as we work toward a plan the FCC and ICC will approve for Design including Diversity and Reliability requirements for the NG9-1-1 network. The CSI Pilot is being scrutinized nationally and internationally. The pilot is geared to evaluate the NENA standards. Note: No single trunk group will have any less than 2 trunks per group. Any additional trunking will be specified based on demand history, thus the traffic statistics and growth forecast by the access carriers. A forecast for at least current and next 2 years is requested. If a 5 year forecast is available for a longer period, it will be accepted. Ongoing data exchange will be established through the NG911, Inc. team working on behalf of CSI.

5. 911 Trunks in Service/ Busy Day/Busy Hour/Peg Count/Usage in CCS of Hundred Call Seconds if available/ Overflow/ Holding Time (HT) if available; i.e. Consistently Peak/Busiest day of week and hour of day: Wednesday at 7:00 to 8:00 CST; Traffic at Peak Hour: 1 Peg Count, x CCS, 0 overflow, and 30 second average HT. If you have any information such as 10 high days for the 911 traffic, please share that data. Typically, 10 High Day is a central office measurement and does not necessarily coincide with the 911 peaks. Anything Carriers want to share about their 911 traffic engineering load is welcome. If Carriers have a future trunk forecast for the group(s), please share information as far as the data supports underlying assumptions.

Many Carriers have mechanized systems which reflect blocked calls and maintenance outage history with respect to all trunking and 911 is no exception. If Carriers have experienced blockages due to SR outages, facilities outages, response times, diversity issues or trunk shortages during peak loads, and have suggestions for improving performance end to end, CSI welcomes the recommendations.

6. SR Switch Names and Locations with CLLI in CSI Territory
7. STP Names and Locations with CLLI and Point Codes in CSI Territory

Added capabilities of Design Interest for each Access Carrier:

Digital Cross Connect Capabilities:

- Interest/Ability in Connecting to the 2 CSI Data Centers with Fiber Rings to get to the CSI Data Centers

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## Attachment 2 - Access Carrier Design – Data Exchange

Note: See Attachment 6 for status from PSAP Mapping Exercise for Engineering

Major Carrier	Lead Contact		
AT&T Wireline	Paul Stoffels	<a href="mailto:PS1956@att.com">PS1956@att.com</a>	95%
Frontier Wireline	Michael Davis	<a href="mailto:Michael.f.davis@ftr.com">Michael.f.davis@ftr.com</a>	NDA Completed
Consolidated Communication Wireline	Kaye Simms	<a href="mailto:Kaye.sims@consolidated.com">Kaye.sims@consolidated.com</a>	
Regional Carrier			
Crossville	Chris Birkla	<a href="mailto:cbirkla@crosstelco.com">cbirkla@crosstelco.com</a>	
Egyptian	Matt Bollinger	<a href="mailto:mbetca@egyptian.net">mbetca@egyptian.net</a>	
Fairpoint/Oden	Keith McNamara	<a href="mailto:kmcnamara@fairpoint.com">kmcnamara@fairpoint.com</a>	
Hamilton	Kevin ?	<a href="mailto:Kevin0@hcc.coop">Kevin0@hcc.coop</a>	
Shawnee	Mike Grisham	<a href="mailto:mgrisham@shawneelink.net">mgrisham@shawneelink.net</a>	
Wabash	j. Williams	<a href="mailto:jwilliams@wabash.net">jwilliams@wabash.net</a>	
Stand alone Carrier or part of Frontier?			
Citizens?			
Wireless Carrier			
AT&T Mobility	Allen Muse	<a href="mailto:allen.muse@att.com">allen.muse@att.com</a>	
Allied/Alltel now part of Comnet	Richard Johnston Intrado, Lauren Yarnall, (Janis Johnson interim replacement for Richard Johnston who is changing positions)	<a href="mailto:Richard.Johnston@intrado.com">Richard.Johnston@intrado.com</a> , <a href="mailto:laurenyarnall@alltel.com">laurenyarnall@alltel.com</a> , <a href="mailto:Janis.Johnson@intrado.com">Janis.Johnson@intrado.com</a>	Conversation Active via Intrado – meeting January 5 most recent on Wireless and VoIP
Sprint PCS	Raymond Greig	<a href="mailto:Raymond.E.Greig@sprint.com">Raymond.E.Greig@sprint.com</a>	
T-Mobile	Jim Nixon	<a href="mailto:jim.nixon@t-mobile.com">jim.nixon@t-mobile.com</a>	
Verizon Wireless	Peter McHale	<a href="mailto:Peter.McHale@verizonwireless.com">Peter.McHale@verizonwireless.com</a>	
Cable TV			
Mediacom Jackson County via Spring - changing	Randy Moss	<a href="mailto:rmoss@mediacomcc.com">rmoss@mediacomcc.com</a>	per Patrick L.
VoIP			
Vonage	Jane Winsett Irene Brennan Richard Johnston Intrado. Changing leaders	<a href="mailto:ibrennan@vonage.com">ibrennan@vonage.com</a> <a href="mailto:Jane.Winsett@intrado.com">Jane.Winsett@intrado.com</a> , <a href="mailto:Richard.Johnston@intrado.com">Richard.Johnston@intrado.com</a> , <a href="mailto:janis.johnson@intrado.com">janis.johnson@intrado.com</a>	Conversation active via Intrado- meeting January 5 most recent on

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			Wireless and VoIP
Clearwave CLEC	Aaron Carian	<a href="mailto:acarian@corp.clearwave.com">acarian@corp.clearwave.com</a>	
<b>Other Carriers from Diagrams – No Contacts – need name, email and a plan. What kind of Carrier</b>		<b>Below Line not on Original Carrier Inventory – Locate Owner or on Intrado or TCI</b>	
First Cellular SoIL - now part of Comnet	Richard Johnston Intrado . <b>Changing leaders</b>	<a href="mailto:Richard.Johnston@intrado.com">Richard.Johnston@intrado.com</a> <a href="mailto:nis.johnson@intrado.com">nis.johnson@intrado.com</a>	Conversation Active via Intrado. Sales: Allied/Alltel/Verizon? <b>meeting January 5 most recent on Wireless and VoIP</b>
Nextel Partners			Nextel and Sprint PCS? Still separate trunking and networks?
TCI Wireless			
Aero Comm CLEC			
Big River Telecom CLEC			
Sprint CLEC			
LEVEL3 CLEC			
Cello Partners			Type Carrier
Delta Comm			Type Carrier
AT&T CLEC			
Bitwise Communications			Type Carrier
Cell One			
Cellco Comm			
Charter Fiberlink CLEC			
Lightspeed CLEC			
Intrado CLEC			

### Attachment 3 – Data Center Locations

Data Center	Address	Primary Contact	Reach Information
East: Saline County Sheriff's Office in <b>Harrisburg</b> (1)	1 NORTH MAIN STREET, HARRISBURG, IL. Phase 1 Fiber	Tracy Felty CSI Treasurer, Clearwave Interface	(618) 252-8661, (270) 952-2098, <a href="mailto:SALINEE911@YAHOO.COM">SALINEE911@YAHOO.COM</a>
West: Jackson County Sheriff's Department in <b>Murphysboro</b> (2)	1001 MULBERRY STREET, MURPHYSBORO, IL. Phase 1 Fiber	Patrick Lustig CSI Project Manager, President INENA, Co Chair IPSTA	(618) 457-5911, (618) 534-4911, <a href="mailto:PLUSTIG@JC911.ORG">PLUSTIG@JC911.ORG</a>

## Attachment 4 - AT&T Wireline Carrier Response to Date- Integrated Mapping

AT&T CSI Data Exchange – Integrated Worksheet November 3, 2011

County	Central Office	CLLI	Host	Remote	SR Primary SR Alternate	Signaling/STP Locations	SS7 PC or IP Address (ATT all SS7)	SR Trks C/A	M Trks Future	H Trks Future	NPA/NXX /Lines Split	On Net Split	Off Net Split
1. Alexandria	1. Cairo	CAIRILCFD50	Y	N	None	None/SS7	250-138-001	0/0	0	0	618-734	N Alexander C Served by Union P ?	N
2. Alexandria	2. Thebes	THBSILTHRSO	CAIRILCFD50	Y	None	None/SS7	250-138-001	0/0	0	0	618-764	N Alexander C serve by Union P and Union P	N
3. Alexandria	3. Tamms	TMMSILTMRSO	CAIRILCFD50	Y	Carbondale-F	SS7	250-138-001	0/0	0	0	618-747/ Need lines split	Y Split Union C., Pulaski C Alexander C Served by Union P and Pulaski P	N
4. Alexandria	4. Olive Branch	OLBRILOBRSO	CAIRILCFD50	Y	None	None/SS7	250-138-001	0/0	0	0	618-776	N Alexander serve by Pulaski	N
5. Alexandria	5. McClure	CPGRMOEDD50	CPGRMOEDDSA	Y	Carbondale-F	SS7	249-146-028	0/0	0	0	618-661/ Need lines split	Y Alexander C and Union C Served by Union P	Y Alexander C MO CG - where do trunks come from? DSO or DSA served by Union P
6. Marion	6. Centralia	CENLILCED50	Y	N	Belville-A Alt Centralia-A	SS7	250-033-004	4/3	4	4	618-522 /618-533/ Need Lines split	N	Y Marion C Jefferson C/ Clinton C IL served by 3 PSAPs
7. Marion	7. Kell	KELLILKRSO	CENLILCED50	Y	Centralia-A	SS7	250-133-002	2/3	3	3	618-822/ Need lines split	N	Y Marion C Jefferson C IL served by 3 PSAPs
8. Marion	8. Salem	SALMILSERSO	CENLILCED50	Y	Centralia-A	SS7	250-133-002	2	2	2	618-548	N	N
9. Marion	9. Iuka	IUKAILIURS0/1	CENLILCED50	Y	Centralia-A	SS7	250-133-002	2	2	2	618-323	N	N
10. Marion	10. Kimmunity	KMNDIULKYRSO	CENLILCED50	Y	Centralia-A	SS7	250-133-002	2/0	2	2	618-547/ Need lines splits Or split NPA NXX	N	Y Marion C and KY Fayette C Served by Marion P and ?
11. Marion	11. Harmony	HRMILHMR50	CENLILCED50	Y	Centralia-A	SS7	250-133-002	2/0	2	2	618-755/ Need lines split	N	Y Marion C and Jefferson C IL Served by Marion P and Jefferson P
12. Marion	12. Dix	Missing	CAIRILCFD50	Y	Centralia-A	SS7	Missing Likely 250-138-001	2/0	2	2	618-266	Missing AT&T ?	Missing AT&T ?
13. Pulaski	13. Mounds City	MDCVILMCR50 GN091903 LB425262	CAIRILCFD50	Y	Centralia-A	SS7	250-138-001	2	2	2	618-748	N	N
14. Pulaski	14. Olmstead	OLMSILOMR50 GN091905 LB425628	CAIRILCFD50	Y	Carbondale-F	SS7	250-138-001	2	2	2	618-742	N	N
15. Pulaski	15. Mounds	MNDSILMDRSO GN091904 LB425627	CAIRILCFD50	Y	Carbondale-F	SS7	250-138-001	2	2	2	618-745	N	
16. Pulaski	4. Olive Branch	OLBRILOBRSO	CAIRILCFD50	Y	Carbondale-F	SS7	250-138-001	2	2	2	618-776/ Need lines split	Y Split Pulaski C and Alexander C and Served by Union P and Pulaski P	N
17. Pulaski	3. Tamms	TMMSILTMRSO	CAIRILCFD50	Y	Carbondale-F	SS7	250-138-001	0	0	0	618-747/ Need lines split	Y Split Union C, Pulaski C	N



### Attachment 5 - Clearwave CLEC Carrier Response to Date – Integrated

County	Central Office	CLU	Host	Remoto Y/N	SR Primary SR Alternate/ Trunks	Signaling	SS7 PC OR IP Address -	LATA	SR Trk C/A	M Trk	H Trk	NPA/NXX -	On Net Split	Off Net Split
Clay (1)	Marion DC	MARNLLKDSO	Yes	No	Casey	SS7	5.92.50	978	2	2	2	618/508 662	No	No
Jackson (2)	Marion DC	MARNLLKDSO	Yes	No	Carbondale	SS7	5.92.50	362	2	2	2	618/351 457 515 529 549 565 684 687	No	No
Johnson (3)	Marion DC	MARNLLKDSO	Yes	No	Carbondale	SS7	5.92.50	362	2	2	2	618/658 771	No	No
Marion City (4)	Marion DC	MARNLLKDSO	Yes	No	Carbondale	SS7	5.92.50	362	2	2	2	618/969	No	No
Marion County (5)	Marion DC	MARNLLKDSO	Yes	No	Belleville	SS7	5.92.50	520	2	2	2	618/535	No	No
Massac (6)	Marion DC	MARNLLKDSO	Yes	No	Carbondale	SS7	5.92.50	362	2	2	2	618/524 638	No	No
Perry (7)	Marion DC	MARNLLKDSO	Yes	No	Carbondale	SS7	5.92.50	362	2	2	2	618/357 542 750	No	No
Pulaski (8)	Marion DC	MARNLLKDSO	Yes	No	Carbondale	SS7	5.92.50	362	2	2	2	618/634	No	No
Richland (9)	Marion DC	MARNLLKDSO	Yes	No	Casey	SS7	5.92.50	978	2	2	2	618/392 393 395 343 879	No	No
Saline (10)	Marion DC	MARNLLKDSO	Yes	No	Carbondale	SS7	5.92.50	362	2	2	2	618/252 253 268 269 272 273 254 257 994	No	No
Union (11)	Marion DC	MARNLLKDSO	Yes	No	Carbondale	SS7	5.92.50	362	2	2	2	618/614 833	No	No
Wabash (12)	Marion DC	MARNLLKDSO	Yes	No	Casey	SS7	5.92.50	978	2	2	2	618/262 263	No	No
White (13)	Marion DC	MARNLLKDSO	Yes	No	Casey	SS7	5.92.50	978	2	2	2	618/382 383 384 963	No	No
Williamson (14)	Marion DC	MARNLLKDSO	Yes	No	Carbondale	SS7	5.92.50	362	2	2	2	618/942 950 964 985 988 993 996 997 998	No	No
Alexander (15) No Clearwave Customers														
Gallatin (16) No Clearwave Customers														
CU Total														
Clearwave Actual	BBS/ESP Transport via T1 to M and 16 DCs to LPG		1 Central Office Clearwave moves all exchanges from their one CO in Marion		2 SRs	All SS7 - Clearwave will connect via A Links to SRs or via F Links - need PC Check by Syniverse	5.92.50 (1 SS7 PC)			28	28	28	Bold: Shared NXXs w/other carriers - LNP	
	Clearwave replacing switch with Softswitch - wants to start w/ SS7 then move to SIP													
SR PCs														
							240.106.11							
							240.115.196							
							250.33.4							

## Attachment 6 – Engineering from PSAP Records Attachment – work in progress

Attachment 6 - Trunk Engineering Worksheet - Source PSAP Diagrams in CSI Footprint – to be validated with all Carriers

### Design Document Format for Access Trunking

#### CSI Access Network

	Carrier	County	Current SR	Main Switch/Host	Remote Switch	Trunks in Service	HRBG Future	MRBO Future	Line (000)	Split Wire Center
<b>CSI Data Center West</b>  Murphysboro, IL 1001 Mulberry Street	AT&T	Alexander				None				SR-SR
		Clay	Oney 3ED - F	Centralia - A		2+2				SR-SR
		Marion	Centralia -A	Belville -A		2+2				SR-SR
		Marion	Centralia -A	Oney - 3ED F		2+2				SR-SR
		Marion	Centralia - A	Mascoutah - F		2+2				SR-SR
		Marion	Centralia - A	Oney 3ED - F		2+2				SR-SR
	Go to AT&T Reply for end offices	Alexander	None							
<b>MRBOILAF0ED</b>  <b>And</b>		Marion	Centralia -A	Centralia Host		4				
		Marion	Centralia -A	Centralia Host	Hammerly Remote	2				
		Marion	Centralia -A	Centralia Host	Juka Remote	2				
		Marion	Centralia -A	Centralia Host	Div Remote	2				
		Marion	Centralia -A	Centralia Host	Kell Remote	2				
		Marion	Centralia -A	Centralia Host	Kinsundy Remote	2				
<b>CSI Data Center West</b>  Harrisburg, IL 1 East Main Street		Marion	Centralia -A	Centralia Host	Salem Remote	2				
		Pulaski	Carbondale -F	Calco/ATT		0				
		Pulaski	Carbondale -F	Calco/ATT	Mound City/ATT	2				
		Pulaski	Carbondale -F	Calco/ATT	Mounds/ATT	2				
		Pulaski	Carbondale -F	Calco/ATT	Otmated/ATT	2				
		Union	Carbondale -F	Calco/ATT		2				
		Union	Carbondale -F	Calco/ATT	Tammis Remote	0				
		SWBT?	Carbondale -F	Cape Girardeau MO host		2				
		Union	Carbondale -F	Cape Girardeau MO host	McClure Remote	0				
		Frontier								
<b>HRBGILAF0ED</b>		Clay	Oney 3ED - F	Centralia - A		2+2				SR-SR
		Clay	Oney 3ED - F	Mattson - ICTC		2+2				SR-SR
		Gallatin	Carbondale 3ED -F	Marion 1ED - F		?				SR-SR
		Jackson	Carbondale 3ED -F	Carbondale 1ED - F		3+3				SR-SR
		Johnson	Carbondale 3ED -F	Marion 1ED - F		4+4				SR-SR
		Marion	Centralia - A	Mascoutah - F		2+2				SR-SR
		Marion	Centralia - A	Oney 3ED - F		2+2				SR-SR
		Massac	Carbondale 3ED -F	Marion 1ED - F		3+3				SR-SR
		Massac	Carbondale 3ED -F	Marion 1ED - F		4+4				SR-SR
		Perry	Carbondale 3ED -F	Carbondale 1ED - F		3+3				SR-SR
		Perry	Carbondale 3ED -F	Mascoutah - F		2+2				SR-SR
		Pulaski	Carbondale 3ED -F	Carbondale 1ED -F		?				SR-SR
		Richard	Oney 3ED - F	Oney 1ED - F		?				SR-SR
		Saline	Carbondale 3ED -F	Marion 1ED - F		5+5				SR-SR
		Union	Carbondale 3ED -F	Carbondale 1ED -F		2+2				SR-SR
		Wabash	Oney 3ED - F	Oney 1ED - F		4+4				SR-SR
		White	Oney 3ED - F	Carbondale 3ED -F		2+2				SR-SR
		Williamson	Oney 3ED - F	Carbondale 3ED -F		2+2				SR-SR
		City of Marion	Carbondale 3ED -F	Carbondale 1ED -F		3+3				SR-SR
		Clay	Oney-F (3ED)	Flora/GTD5		2				
		Clay	Oney-F (3ED)	Flora/GTD5	Clay City/RSU	2				
		Clay	Oney-F (3ED)	Oney/GTD5	NoMa/RSU	2				
		Clay	Oney-F (3ED)	Oney/GTD5	Sailor Springs (RLCM)	2				
		Gallatin	Carbondale -F	New Haven 105A?		2				Split?
		White	Carbondale -F	New Haven DMS 10		2				Split?
		Gallatin	Carbondale -F	Norcross City 105A?	Omaha/RSLE?	2				
		Gallatin	Carbondale -F	Elkfordo 5BU	618 272? No name	0				Ridgway Opted In from Saline?
		Gallatin	Carbondale -F	Elkfordo 5BU	Shawneetown RSU	2				
		Jackson	Carbondale -F	Percy/DMS10		2				
		Jackson	Carbondale -F	Percy/DMS10	Steelsville/SSO	0				
	Jackson	Carbondale -F	Pindneyville/GTD5		2					
	Jackson	Carbondale -F	Carbondale/DMS100		6					
	Jackson	Carbondale -F	Carbondale/DMS100	Ava/RSC	2					
	Jackson	Carbondale -F	Carbondale/DMS100	Royalton/RSCS	2				Perry/S plit? Williams on Split?	

**Attachment 6 - Trunk Engineering Worksheet - Source PSAP Diagrams in CSI Footprint – to be validated with all Carriers**

**Design Document Format for Access Trunking**

		Jackson	Carbondale -F	Carbondale/DMS100	Desoto/RSCS	2				Williams on Split?
		Jackson	Carbondale -F	Carbondale/DMS100	Hurst/RSCS	2				Williams on Split?
		Jackson	Carbondale -F	Anna/SBU		2				Split ? Union Duplicate
		Jackson	Carbondale -F	Anna/SBU	Cobden/RSU	0				Split? Union Duplicate?
		Union	Carbondale -F	Anna /GTD5	Cobden/RSU	2				
		Johnson	Carbondale -F	Marion Main SBU	Creal Springs RSU	2				
		Johnson	Carbondale -F	Marion Main SBU	Goreville RSU	2				Split? Union?
		Union	Carbondale -F	Marion/GTD5	Goreville/RSU	2				Split ? Marion# 5 Johnson and Union?
		Johnson	Carbondale -F	Marion Main SBU	Vienna RSU	2				Split? Marion #5 /Massac and
		Marion	Centralk -A	Altamont Host		0				
		Clay	Centralk -A	Altamont/DMS10	Farina Remote	2				Clay Split?
		Clay	ICTC -A	Altamont/DMS10	Edgewood/SSO	2				Only ICTC BR?
		Marion	Centralk -A	Altamont Host	St. Peter Remote	2				
		Marion	Centralk -A	Sandowal Host		2				
		Marion	Centralk -A	Sandowal Host	Patoka Remote	2				
		Marion	Centralk -A	Hayleton Host	Irving Remote	2				
		Pulaski	Carbondale -F	Anna/SBU	Dongola/RSU	2				Union Split? Duplicate?
		Union	Carbondale -F	Anna (GTD5	Dongola/RSU	2				Split ? Pulaski Duplicate?
		Pulaski	Carbondale -F	Anna/SBU	Ulin/RSU	2				
		Pulaski	Carbondale -F	Anna/SBU	Villa Ridge/RSU	2				
		Jackson	Carbondale -F	Murphysboro/DMS100		3				
		Union	Carbondale -F	Murphysboro Host	Grand Tower GTRUS ?	2				Split? Jackson ?
		Jackson	Carbondale -F	Cartersville/GTD5		2				
		Massac	Carbondale -F	Marion#5		2				
		Massac	Carbondale -F	Marion#5	Vienna/RSU	0				Split ? Marion #5 Johnson ?
		Johnson	Carbondale -F	Metropolis/SESS Host		2				Split?
		Massac	Carbondale -F	Metropolis/SESS	Brookport/RSM	2				
		Massac	Carbondale -F	Metropolis/SESS	Joppa/RSU	2				
		Richland	Onsey-F (3ED	Onsey/SBU		2				
		Richland	Onsey-F (3ED	Onsey/SBU	Clanmont/RSU	2				
		Richland	Onsey-F (3ED	Onsey/SBU	Noble/RSU	2				
		Richland	Onsey-F (3ED	Onsey/SBU	Carhoun/RSU	2				
		Richland	Onsey-F (3ED	Onsey/SBU	Parkersburg/DMF	2				
		Richland	Onsey-F (3ED	Lawrenceville/SBU	Sumner/RSU	2				
		Crawford-O	Onsey-F (3ED	Lawrenceville/SBU	Chauncey/RSU	2				Split?
		Richland	Onsey-F (3ED	W. Salem/DMS10		2				
		Richland/Clay	Onsey-F (3ED	Wendelin/DMS10		2				Split?
		Richland	Onsey-F (3ED	Wendelin/DMS10	Dundas/RSLE	2				
		Massac	Carbondale -F	Metropolis/SESS	Joppa/RSM	2				Duplicate? Split?
		Pulaski	Carbondale -F	Metropolis/SESS	Joppa/RSM	2				Duplicate? Split?
		Johnson	Carbondale -F	Anna Host -F	Kamak/RSU					Split? Pulaski?
		Massac	Carbondale -F	Anna/GTD5	Kamak/RSM	2				Pulaski/ Split?
		Pulaski	Carbondale -F	Anna/SBU	Kamak/RSU	2				Massac/

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Design Document Format for Access Trunking

	Perry	Carbondale -F	Carbondale/DMS100		2				Split?
	Perry	Carbondale -F	Carbondale/DMS100	Ava/RSCS	2				Jackson /Split?
	Randolph-O	Carbondale -F	Sparta/SBU		2				Split?
	Perry	Carbondale -F	Sparta/SBU	Coulterville/RSU	0				
	Perry	Carbondale -F	Perry/SSO		2				
	Randolph-O	Carbondale -F	Perry/SSO	Steelville/SSO	0				Split?
	Jackson	Carbondale -F	DuQuoin	Elkville/RSU	2				
	Perry	Carbondale -F	DuQuoin/SBU		2				
	Perry	Carbondale -F	DuQuoin/SBU	Elkville/RSU	0				
	Perry	Carbondale -F	Pinckneyville/SBU		2				
	Perry	Carbondale -F	Woodlawn/10SA		2				
	Perry	Carbondale -F	Woodlawn/10SA	Tamaroa/RSLE	0				
	Perry	Mascoutah -F	Woodlawn/10SA	Dubois/RSLE	2				
	Union	Carbondale -F	Anna (GTD5)		2				
	Union	Carbondale -F	Anna (GTD5)	Cypress RS	2				Johnson Split?
	Johnson	Carbondale -F	Anna Host -F	Cypress RSU					Split?
	Pulaski	Carbondale -F	Anna/SBU	Cypress/RSU	2				Union Split? Duplicate?
	Saline	Carbondale -F	Harrisburg Host SBU		3				
	Saline	Carbondale -F	Harrisburg Host SBU	Carrier Mile RSU	2				
	Saline	Carbondale -F	Harrisburg Host SBU	Stonefort RSU	2				Split?
	Saline	Carbondale -F	Eldorado SBU		2				Map
	Galatin -O	Carbondale -F	Eldorado SBU	Ridgway RSU	2				Out to Galatin – not on G Diagram ?
	Saline	Carbondale -F	Raleigh 10SA		2				
	Saline	Carbondale -F	West Frankfort/SESS H	Thompsonville RSM	2				
	Saline	Carbondale -F							
	Union	Carbondale -F	Carbondale /DMS100/200		6				Jackson Split? Duplicate?
	Wabash	Olney-F (3ED)	Mt. Carmel 5ESS		2				
	Wabash	Olney -F(3ED)	Mt. Carmel 5ESS	Belmont RSM	2				
	Wabash	Olney -F(3ED)	Lawrenceville GTD5 Host	Alendale RSU	2				
	Wabash	Olney -F(3ED)	West Salem DMS 100		2				
	Wabash	Olney -F(3ED)	Carm GTD5 Host	Grayville RSU 375	2				Split?
	White	Olney -F(3ED)	Fairfield GTD5	Burnt Prairie RSU	2				
	White	Olney -F(3ED)	Carm GTD5	Enfield RSU	2				
	White	Olney -F(3ED)	Carm GTD5	Grayville RSU 375	2				Split?
	White	Olney -F(3ED)	Carm GTD5	Maurie RSU	2				
	White	Olney -F(3ED)	Norris City		2				
	White	Carbondale -F	Norris City DMS10	Omaha RLM	2				
	Williamson	Carbondale -F	Herrin/GTD5		2 (SS7)				
	Williamson	Carbondale -F	Cartersville/GTD5		2 (SS7)				Jackson /Split?
	Williamson	Carbondale -F	Marion Main/GTD5		3 (SS7)				City Marion Split?
	Williamson	Carbondale -F	Marion Main/GTD5	Creal Springs/RSU	2 (SS7)				Split ? Marion# 5 Johnson
	Williamson	Carbondale -F	Marion Main/GTD5	Goneville/RSU	2 (SS7)				Split Marion 5 Johnson
	Williamson	Carbondale -F	Marion Main/GTD5	Marion South/RSU	2 (SS7)				City Marion Split?
	Williamson	Carbondale -F	Raleigh/GTD5		2 (SS7)				
	Williamson	Carbondale -F	Raleigh/GTD5	Paulton/RLC	2 (SS7)				
	Williamson	Carbondale -F	West Frankfort/5ESS		2 (SS7)				
	Williamson	Carbondale -F	West Frankfort/5ESS	Johnson City/RSM	2 (SS7)				
	Williamson	Carbondale -F	West Frankfort/5ESS	Thompsonville/RSM	2 (SS7)				
	Williamson	Carbondale -F	Carbondale/DMS100/200		6 (MF)				Jackson /Split?
	Williamson	Carbondale -F	Carbondale/DMS100/200	Royalton/RSC	2 (MF)				Jackson /Split?
	Williamson	Carbondale -F	Carbondale/DMS100/200	Hurst/RSC	0 (MF)				Jackson /Split?
	Williamson	Carbondale -F	Harrisburg/GTD5		2				Saline Split?
	Saline O	Carbondale -F	Harrisburg/GTD5	Carrier Mile/RSU	2				Split?
	Johnson	Carbondale -F	Harrisburg/GTD5	Stonefort/RSU	2				Split?

Attachment 6 - Trunk Engineering Worksheet - Source PSAP Diagrams in CSI Footprint – to be validated with all Carriers

Design Document Format for Access Trunking

Crossville	Williamson	Carbondale -F	Harrisburg/STD5	Stonefort/RSU	2 (SS7)			
	White	Olney -F(3ED)	Crossville		2			
Egyptian	Jackson	Carbondale -F	Baldwin/Host	Glenn/Remote	2			
	Jackson	Carbondale -F	Baldwin/Host		0			
	Perry	Mascoutah - F	Baldwin/Host		3			
	Perry	Mascoutah - F	Baldwin/Host	Oakdale/Egyptian	0			
	Perry	Mascoutah - F	Baldwin/Host	Rice/Egyptian	0			
Fairpoint/Oden	Marion	Centrales -A	Odin Host		2			
	Marion	Centrales -A	Shobonier Host		2			
Hamilton	Saline	Carbondale -F	Dahlgren Host	Broughton Remote	2			
	White	Olney -F(3ED)	Dahlgren Host	Blairsville Remote	2			
Shawnee	Gallatin	Carbondale -F	Roseclaire		0			Host included ?
	Gallatin	Carbondale -F	Roseclaire	Equality	2			Split? Same NXX
	Gallatin	Carbondale -F	Roseclaire	Leamington	2			Split? Same NXX
	Gallatin	Carbondale -F	Roseclaire	Cave In Rock	2			
	Saline	Carbondale -F	Roseclaire		0			
	Saline - O	Carbondale -F	Roseclaire	Equality	2			Split? Opted to Gallatin Same NXX
	Saline - O	Carbondale -F	Roseclaire	Leamington	2			Split? Same NXX Opted to Gallatin
	Johnson	Carbondale -F	Simpson		2			
	Johnson	Carbondale -F	Simpson Host /Shawnee	Renshaw/Remote Shawnee	2			
Wabash	Richland	Olney -F	Cisne/Host	Mount Erie/Remote	2			Olney/ Marion Split?
	Clay	Centrales -A	Cisne/Host		2			C/W Split?
	Clay	Olney -F	Cisne/Host	Mt. Erie/Remote	2			Double shown R/C split?
	Wabash	Olney -F(3ED)	CISNE Host	Browns	2			
	Marion	Centrales -A	Louisville Host		2			
	Clay	Olney -F (3ED)	Louisville Host	Xenia Remote	2			C/W Split?
	Clay	Olney -F (3ED)	Louisville Host	Bible Grove/Remote	2			
	Marion	Centrales -A	Louisville Host	Xenia Remote	2			C/W Split?
AT&T Mobility	Jackson	Carbondale -F	AT&T Mobility		2			
	Johnson	Carbondale -F	AT&T Mobility		4			
	Massac	Carbondale -F	AT&T Mobility		2			
	Marion	Centrales -A	AT&T Mobility		2			
	Percy	Carbondale -F	AT&T Mobility		2			
	Pulaski	Carbondale -F	AT&T Mobility		2			
	Saline	Carbondale -F	AT&T Mobility		2			
	Union	Carbondale -F	AT&T Mobility		2			
	Wabash	Olney -F (3ED)	AT&T Mobility		2			
	White	Olney -F(3ED)	AT&T Mobility		2			
	Williamson	Carbondale -F	AT&T Mobility		2			
	City Marion	Carbondale -F	AT&T Mobility		2			
Alltel/Alltel	Clay	Olney -F (3ED)	Alltel/Alltel		2			
	Jackson	Carbondale -F	Alltel/Alltel		2			
	Johnson	Carbondale -F	Alltel/Alltel		2			
	Percy	Carbondale -F	Alltel/Alltel		2			
	Pulaski	Carbondale -F	Alltel/Alltel		2			
	Saline	Carbondale -F	Alltel/Alltel		2			
	Richland	Olney -F (3ED)	Alltel/Alltel		2			
	Union	Carbondale -F	Alltel/Alltel		2			
	Wabash	Olney -F (3ED)	Alltel/Alltel		2			
	White	Olney -F(3ED)	Alltel/Alltel		2			
	Williamson	Carbondale -F	Alltel/Alltel		2			

Attachment 6 - Trunk Engineering Worksheet - Source PSAP Diagrams in CSI Footprint – to be validated with all Carriers

Design Document Format for Access Trunking

Sprint PCS	City Marion	Carbondale -F	Alltel/Witel		2					
	Clay	Olney-F (3ED)	Sprint PCS		2					
	Jackson	Carbondale -F	Sprint PCS		2					
	Johnson	Carbondale -F	Sprint PCS		4					
	Marion	Centraia -A	Sprint PCS		2					
	Massac	Carbondale -F	Sprint PCS		2					
	Pulaski	Carbondale -F	Sprint PCS		2					
	Richland	Olney-F (3ED)	Sprint PCS		2					
	Union	Carbondale -F	Sprint PCS		2					
	White	Olney-F(3ED)	Sprint PCS		2					
	Williamson	Carbondale -F	Sprint PCS		2					
	City Marion	Carbondale -F	Sprint PCS		2					
	T-Mobile	Clay	Olney-F (3ED)	T-Mobile		2				
Jackson		Carbondale -F	T-Mobile		2					
Johnson		Carbondale -F	T-Mobile		2					
Marion		Centraia -A	T-Mobile		2					
Percy		Carbondale -F	T-Mobile		2					
Pulaski		Carbondale -F	T-Mobile		2					
Richland		Olney-F (3ED)	T-Mobile		2					
Union		Carbondale -F	T-Mobile		2					
White		Olney-F(3ED)	T-Mobile		2					
Williamson		Carbondale -F	T-Mobile		2					
City Marion		Carbondale -F	T-Mobile		2					
Verizon Wireless		Gallatin	Carbondale -F	Verizon		2				
		Jackson	Carbondale -F	Verizon		2				
	Johnson	Carbondale -F	Verizon		2					
	Percy	Carbondale -F	Verizon		2					
	Pulaski	Carbondale -F	Verizon		2					
	Saline	Carbondale -F	Verizon		2					
	Union	Carbondale -F	Verizon		2					
	Wabash	Olney-F (3ED)	Verizon		2					
	White	Olney-F(3ED)	Verizon		2					
	Williamson	Carbondale -F	Verizon		2					
	Mediacom			Via Sprint changing	Contact Randy Moss per Patrick L.					
	Jackson	Carbondale -F								
	Vonage	Jackson	Carbondale -F	Vonage/VoIP		6				
Marion		Centraia -A	Vonage VoIP		4					
Clearwave CLEC	Jackson	Carbondale -F	Clearwave CLEC		2					
	Johnson	Carbondale -F	Clearwave CLEC		2					
	Massac	Carbondale -F	Clearwave CLEC		2					
	Percy	Carbondale -F	Clearwave CLEC		2					
	Saline	Carbondale -F	Clearwave CLEC		2					
	Union	Carbondale -F	Clearwave CLEC		2					
	Williamson	Carbondale -F	Clearwave CLEC		2					
	City Marion	Carbondale -F	Clearwave CLEC		2					
	Other			Below Line not on Carrier Inventory - Locate						
First Cellular SoIL	Gallatin	Carbondale -F	First Cellular So IL		2					
	Jackson	Carbondale -F	First Cellular So IL		3					
	Johnson	Carbondale -F	First Cellular So IL		2					
	Percy	Carbondale -F	First Cellular So IL		2					
	Pulaski	Carbondale -F	First Cellular So IL		2					
	Union	Carbondale -F	First Cellular So IL		2					
	Richland	Olney-F (3ED)	First Cellular So IL		2					
	Saline	Carbondale -F	First Cellular So IL		2					
	Williamson	Carbondale -F	First Cellular So IL		2					
NexTel Partners	Jackson	Carbondale -F	NexTel Partners Wire		4					
	Johnson	Carbondale -F	NexTel Partners Wire		2					
	Wabash	Olney-F (3ED)	NexTel Partners Wire		2					
	White	Olney-F(3ED)	NexTel Partners Wire		2					
	Williamson	Carbondale -F	NexTel Partners Wire		2					
	City Marion	Carbondale -F	NexTel Wireless		2					
TCI Wireless	Jackson	Carbondale -F	TCI Wireless		2					
	Johnson	Carbondale -F	TCI Wireless		2					
	Massac	Carbondale -F	TCI Wireless		2					
	Saline	Carbondale -F	TCI Wireless		2					
	Union	Carbondale -F	TCI Wireless		2					
	Williamson	Carbondale -F	TCI Wireless		2					
Aero Comm CLEC	Gallatin	Carbondale -F	Aero Comm CLEC		2					
	Jackson	Carbondale -F	Aero Comm CLEC		2					
	Johnson	Carbondale -F	Aero Comm CLEC		2					



Assure911.net-DG-CSI/NG911-002	January 31, 2012
CSI/NG911 Access Plan Document	EXHIBIT 15

## References

### Documents filed by CSI

1. Next Generation Design Plan, Assure911.net-DG-CSI/NG911-001
2. Next Generation Access Plan, Assure911.net-DG-CSI/NG911-002
3. Test Plan Document, Assure911-STP-CSI/NG911-001
4. NG9-1-1/CSI Cutover Strategy, Assure911-STP-CSI/NG911-002

### Title 83 Administrative Code Part 725:

1. <http://www.ilga.gov/commission/jcar/admincode/083/08300725sections.html>

### NENA and SIP References, included in the filing as Exhibit 12

1. NENA i3 standards, "Detailed Functional and Interface Standards for the NENA i3 Solution Version 1.0," Standard number: 08-003 v1", approved June 16, 2011, <http://www.nena.org/stories/technical/executive-board-approves-i3-standard>
2. NENA Glossary of terms document, [http://www.nena.org/sites/default/files/NENA%2000-001\\_V16.pdf](http://www.nena.org/sites/default/files/NENA%2000-001_V16.pdf).
3. NENA: "The NENA 75-001 Security for Next-Generation 9-1-1 Standard (NG-SEC) contains a number of sections which apply to ESInets including; Security Policies, Information Classification, Safeguarding Information Assets, Physical Security Guidelines, Network and Remote Access Security Guidelines, Change Control Documentation, Compliance Audits and Reviews. ESInets should be NG-SEC compliant. [http://www.nena.org/?page=ng911\\_security&terms=security+and+standards](http://www.nena.org/?page=ng911_security&terms=security+and+standards)
4. NENA Operations Standards for NG9-1-1, NENA 57-750 NG9-1-1 System and Operational Features and Capabilities Requirements pdf. Rick Jones - lead.
5. Access Trunking Reference IP-PBX / Service Provider Interoperability, "SIPconnect 1.1 Technical Recommendation", SIP Forum Document Number: TWG-2
6. NENA ESInet Design for NG9-1-1 draft document NENA 08-506 Version 1, August 16, 2011.
7. ESInet Design for NG9-1-1 NENA 08-506, Version 1
8. CSI Narrative including Future Benefits not covered in CSI ICC Pilot application Design Plan

### List of Exhibits included in this filing:

1. Exhibits 1-9 Legal and Regulatory References.
2. Exhibit 10 Assure911 Test Plan
3. Exhibit 13 CSI RFP - This document defines the Network Design as described in the "REQUEST FOR PROPOSAL FOR AN IP-BASED NEXT GENERATION 9-1-1 COMMUNICATION SYSTEM for Counties of Southern Illinois NG9-1-1 Association," submitted on September 21, 2010 by: Ken Smith – Chairman, 300 N. Park Ave., Herrin, Illinois 62948, 618-988-6911, document dated August 2, 2010.
4. Exhibit 14 Design Plan
5. Exhibit 15 Access Plan
6. Exhibit 16 Cutover Strategy
7. Exhibit 17 CSI Contracts