This is a high level review of the issues involved in the transition from the 911 legacy call routing system to a statewide Next Generation 911 system utilizing Internet Protocol network improvements.
Statewide NG-911 Routing System - Goals and Benefits:

- Resolve E911 call transfer issues statewide for 911 caller location and rapid emergency response
- Enterprise model - Lower cost - state contract versus individual counties having to procure different solution.
- Increase Emergency System functionality
- NG-911 NENA i3 System Standardization
- Improving 911 reliability and availability.
- Include Text, Video and emerging technologies
- Statewide 911 System performance measurement; Management Information System (MIS) tools

Legislation & Rules

Existing:

- Florida Statutes (s 365.171-175 (E911), s934.03 (Recordings); s119.007 (Public Records); General Records Schedule GS-1 Records Retention
- SUNCOM Rules – DivTel (FAC 60FF-1 – 3)
- State E911 Plan – DivTel (FAC 60FF-6.001 – 5)

Leadership and Coordination

- State-level 911 Leadership and Coordination funding - E911 Board
- State-level 911 Leadership and Coordination - DMS
- State-level oversight of the 911 system - DivTel
- Authority to plan, coordinate, and implement a NG-911 routing system – DivTel SUNCOM
- Overall security of the NG-911 system - DivTel Rules & State E911 Plan Rules
- Developing, implementing and enforcing security policies, system requirements and information management - State E911 Plan Rules
- State policies allow for E911 federal grants - DMS

Needs:

- Develop Federal, tribal, private safety agencies ability to use MyFloridaNet
- Definitions/requirements concerning which communications devices/services are required to provide 911 and remit fee
- Appropriate Rule modifications, authority and technical resources – Legislation and contracts (ITN) for additional staffing.
- NG-911 Liability Issues
  - State liability statutes covering all public and private entities involved in the end-to-end provision of NG-911 systems and services (unless gross negligence)
  - Federal, tribal, private safety agencies liability protection
- Confidentiality, disclosure and retention of NG-911 call and other emergency information
- Shared information for emergency response, Federal, tribal, private safety agencies
- Formal education for NG-911 call takers, coordinator (Local Agency) and 911 caller (Public)
- NG-911 call routing characteristics, Rules
  - Location of the call
  - Policy based routing function to pre determined PSAP and call taker position based on Language Line or interpretation system
  - Additional non location based call routing
Next Steps

- Review legislative language to determine what avenue should be used for introduction, DivTel, industry, county or combination.
- State NG-911 Plan Rules (in progress)
  - PSAP Equipment Section requirements for NG-911
  - Security Section
  - Develop cooperative working agreements between federal, state and local agencies using MyFloridaNet and NG-911 Routing system
  - Priority access for emergency services during disasters.
  - County requirement to develop standard operating procedures (SOP’s) establishing NG-911 operation rules
  - Develop framework for formal education and awareness program

NG-911 Funding

Existing:

- State-level E911 Board/agency
- Allowable use of E911 fee revenues - explicitly allows NG-911

Needs:

- Sufficient fee & funding resources to implement and operate the NG-911 routing system (Non Recurring Cost (NRC) & Monthly Recurring Costs (MRC)) - (Service Contract Model)
- Funding mechanism to ensure sustainable funds for support NG-911 routing - (Service Contract Model)
- Prepaid Wireless E911 Fee (Point of Sale)
- ENHANCE 911 Grant (Federal Grant if available - (NRC)) – Possible reduction of MRC.

Next Steps

- Review of other State’s Funding Models – Meeting with DivTel Finance
- Review of existing 911 call routing funding – Meeting with DivTel Finance
- Develop a Business Case
  - Begin discussion on the service contract model
  - Develop and propose different service models for NG-911.
  - Define all billable products. (Routing, GIS, MIS, CPE)
  - Estimate costs (initial non-recurring and recurring) for migration to NG-911
  - Estimate transition duplication costs
  - Estimate any potential savings
  - Determine any continuing legacy costs for component services that are no longer needed
  - Define current and future service models.
  - Legislative action (budget)
  - Positions (funding through ITN and service contract)
Operational

Existing:

- State E911 Plan – (DivTel FAC 60FF-6.001 – 5)

Needs:

- Statewide GIS System (for NG-911 routing and 911 caller location)
- Management Information System (visibility on 911 call processing and validation of NG-911 routing information)
- NG-911 Call taking - Standard Operating Procedures
- Potential Future Needs
  - Language Interpretation Services (State Contract)
  - PSAP Equipment (Hosted PSAP Equipment and PSAP Customer Premise Equipment)

Next Steps

- Modification to State 911 Plan
- Determine funding source for MIS and GIS Systems
- Possible Future State Contracts

Implementation

Existing:

- MyFloridaNet
- Technical Specification Development – DMS & LR Kimball
- Operation Guide – DivTel Contract

Needs:

- Final Technical Specification (in progress)
- Final Operation Guide – DivTel & Contractor
- User Guide - DivTel & Contractor
- Define any MyFloridaNet element modifications – Based on ITN response
- Implementation Team
- “Last Mile” Scalability and Reliability
- GIS Mapping Systems

Next Steps

- ITN
- Project Contract
- Project Management - Implementation Team
- Implementation incremental change - NENA i3 design
  - MFN/SIP Network
  - Accurate GIS data
  - i3 capable PSAP - CPE.
• Service Provider Delivery
  o Service Providers need to send calls to the new NG-911 system
  o Selective Router redirect calls to the NG-911 system.
    ▪ CAMA trunks removal
• Migration from E911 ALI database to NG-911 GIS database.
  o Database to database steering within the network.
  o Steering database queries from the individual PSAPs.
  o Two databases synchronized during the transition
    ▪ E911 ALI database
    ▪ NG-911 ALI database replacement
      ▪ When PSAP queries the NG-911 GIS system, decommission ALI

NG-911 Network Deployment Strategies & Costs (Discussion on the service contract models)

STATEWIDE NG-911 ROUTING SYSTEM IMPLEMENTATION OPTIONS

<table>
<thead>
<tr>
<th>State Option</th>
<th>County Option</th>
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</thead>
<tbody>
<tr>
<td>SUNCOM contracts NG-911 Routing Service</td>
<td>County contracts vendor vary</td>
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<td>Counties receive their own bill</td>
<td>Counties receive their own bill</td>
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<td>Standard NG-911 features</td>
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<td>State implementation schedule</td>
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<td>State managed and maintained</td>
<td>State 911 Office helps with interlocal agreement for patched Statewide system</td>
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<tr>
<td>Counties fund CPE with available Host Equipment Option</td>
<td>County fund CPE</td>
</tr>
</tbody>
</table>

EXISTING STATEWIDE 911 SITUATION –

Existing E911 Call Delivery Service
• Typically through the iLEC (landline access lines, wireless, broadband voice cLEC, VoIP)
• Combination LEC and direct wireless connections
• Combination LEC, cLEC, direct wireless connections
• IP delivery through cLEC (Intrado, AT&T, CenturyLink)

Existing E911 Funding Model
• E911 Fee Revenue disbursed to counties based on subscribers and E911 Board Allocations
• Wireless Phase I & II disbursed to provider based on actual costs.

Existing E911 cost models (typically bundled services)
• Landline – 911 LEC Circuit & LEC Database cost – (Wireless cost recovery)
• Landline – 911 LEC Circuit costs – County provided 911 database (Typically Rural Counties)
• Landline & Wireless – 911 LEC Circuit & LEC Database cost (wireless and landline subscribers)
• Combination of above

STATEWIDE NG-911 ROUTING SERVICE MODEL & PLAN STRATEGIES
Proposed NG-911 Routing System Service

- Through DMS Statewide SUNCOM Service Contract

NG-911 Routing System & Service Costs

- NG-911 Routing System Vendor Costs for 911 Call Routing NRC
- NG-911 Routing System Vendor Costs for 911 Call Routing MRC
  - Legacy Service Provider Costs (included in above)
  - Carrier and Service provider connectivity costs
  - DiVTel cost (Engineering & NOC)

- Hosted CPE System Costs
- MFN Circuit Costs (Separate Billing)
  - Primary Circuit Options
  - Optional Back-up Circuits (MFN Network, Microwave, Wireless Broadband, Satellite)

Potential Funding Sources (Current funding available or accrue funds to build network)

Legislature - System NRC - County MRC E911 Fee Revenue
- E911 Board - System NRC - County MRC E911 Fee Revenue
- E911 Board - E911 Fee Revenue
- County - E911 Fee Revenue (in place of landline system costs)
- Federal grants & E911 Board match - System NRC - County MRC E911 Fee Revenue

Short-term NG-911 Funding Models Developmental & Installation Costs Considerations

- Existing LEC Model with Counties paying the all costs through Suncom.
- Utilizing Grant and E911 Fee Revenue to pay NRC & installation costs. (reduce MRC)
- Possible availability of Federal Funding (Congress, FCC and DOT look at a State level model for NG-911) $250M possible Future Grants (up to 80% match)
- Current E911 Board matching revenue
- Possible State Legislation modifications (Funding for Statewide Initiatives)

Various Billing Service Contract - Monthly Pricing Options

- Cost based per PSAP (Known) (Primary 165, Secondary 65 - Total 230) (Backup-48)
- Cost based on cost of routing circuit capacity (design estimate)
- Cost based per position/bandwidth (design estimate) (Primary & Secondary approximately 1,700 positions)(250Kb/position)
- Cost based per county subscriber
- Cost based per county population (Known) Total 18.9M
- Cost based per county population & Visitors (Calculated)
- Cost based per 911 call (Last Year Reported) 15.8M (No Statewide MIS)
- Combination
- Other
E911 BOARD LONG TERM STRATEGIC INITIATIVES

The Board’s goal is to provide residents and visitors of the State of Florida with the most technologically efficient and cost-effective E911 services available within the funding allowances. E911 is not designed to, or capable of, taking advantage of current technologies and will not handle emerging technologies. One of the potential life-saving issues is the capability to receive text notifications of emergencies. Some of the technology issues for migrating to NG-911 include:

**Legacy E911 (System Limitations)**
- Limited E911 Call Transfers to Appropriate PSAPs
- Requires Special Local Exchange Carrier Tandem Transfers
- Additional 911 Caller Information is Voice Provided
- Limited Routing in Overflow Situations
- ADA Limited to TTY Devices
- Legacy Analog Lines (CAMA)
- Limited interoperability
- Limited Evolving Device Technology Adoption

**Next Generation 911**
- IP Transport
  - Transfer 911 Caller Voice and Location Data
- Geographic Routing
- Data Exchange & Sharing (Voice, Video, Text)
- Dynamic Call Congestion Control
- ADA Text-to-911 (SMS/RTT)
- IP Transport
  - Voice, Video, Text
- Response Interoperability
- Support of IP-based Technologies (Current Public Devices)
• E911 BOARD STRATEGIC INITIATIVES

- TECHNICAL & EQUIPMENT
- TRAINING & OPERATIONS

- Statewide NG-911 Call Routing
  - DMS Departmental Contract
  - SUNCOM Enterprise Service
  - MyFloridaNet Backbone

- Statewide 911 Education and Web-Training
  - Coordinator Training
  - 911 System Training
  - Public Education

- Statewide Geographic Information System
  - NG-911 Call Routing
  - 911 Caller Location Mapping
  - Oblique Aerial Photography

- Statewide 911 Pre-arrival Instructions
  - Emergency Medical
  - Emergency Law Enforcement
  - Emergency Fire

- Hosted Public Safety Answering Point NG-911 CPE Systems
  - DMS Departmental Contract
  - SUNCOM Enterprise Service
  - Various CPE* Platforms

- Statewide Language Translation System
  - Statewide Contract
  - Text Translation Services
  - Speech and Hearing Impaired translation

- Statewide 911 Management Information System
  - 911 Call Routing
  - 911 Call Handling
  - 911 Call Answering

- Statewide ANSI Standards for Missing & Exploited Children
  - Adopt Standards
  - Training Availability

CPE* Customer Premise Equipment
1. Statewide NG-911 Call Routing

The Board is promoting implementation of NG-911 emerging technologies and migration to an IP delivery system for E911 services. Regional routing systems have been funded as a precursor to implementing a statewide NG-911 routing system. Regional pilot projects are providing critical information on the effects of IP routing and E911 system call processing. The development of a statewide ESInet will provide IP routing of 911 calls through a statewide network connection or through existing county/regional routing networks.

2. Statewide NG-911 Geographic Information System

Statewide NG-911 GIS data is the future for caller location determination in NG-911. The proposed statewide GIS database will consist of data layers, including boundary data on each county, public safety answering points, and emergency service zones (areas). The database will be compliant with the individual county’s Master Street Address Guide (MSAG).

3. Hosted Public Safety Answering Point NG-911 CPE Systems

Currently, Florida counties are purchasing the E911 system equipment that is dedicated to their county PSAPs. The E911 fee revenue being collected from Florida’s subscribers is not keeping up the costs of the individual E911 equipment and services. Hosted NG-911 services for PSAPs will provide enterprise NG-911 equipment and services that can be shared with other counties and PSAPs. Hosting will be able to leverage software and hardware upgrades with technical services to enable PSAP systems to maintain the current revisions of the latest 911 systems.

Florida is especially susceptible to major climatic events that can damage and destroy E911 Public Safety Answering Points. Past events have shown the need to develop an emergency contingency plan for these critical systems. Another critical component to emergency response and disaster recovery is a planned and adaptable remote backup capability. A diverse hosted PSAP equipment system can provide for continuous operations of 911 in the case of a catastrophic event, including but not limited to hurricanes, through shared systems which cannot be funded with existing fee revenues.

4. Statewide NG-911 Management Information System

Management Information Systems (MIS) for 911 Public Safety provides critical information on call details and trunk usage. With the statewide NG-911 systems and IP routing systems, the MIS is needed to track 911 call routing and call transfers. The need for additional positions, equipment, and personnel can be justified based on the data captured and trend analysis in a statewide MIS. Justification of funding is becoming an increasingly important requirement due to reductions in fee revenue, which must be augmented from county general revenues.

5. Statewide NG-911 Education and Web-training

There are two parts to this initiative: public education and public safety agency education. The Board reviews 911 educational training needs, opportunities, and standards for the State of Florida.

Public Education is needed to inform citizens and visitors of the availability, non-availability, abilities and limitations of the 911 systems throughout Florida. Coordination
with federal agencies, disability organizations and public and private sectors is needed for a unified public education program. The content includes wireless accuracy issues, text availability and non-availability, 911 response and operational issues in specific areas throughout Florida.

This initiative develops an instructional program to assist county agencies with 911 training for county 911 coordinators, 911 public safety telecommunicators and other 911 personnel. The content includes 911 e-training for 911 terminology, standards, operations and call taking functions.

6. Statewide E911 Pre-arrival Instructions

The Board has approved funding of pre-arrival instructions for 911 calls involving emergency medical, law enforcement and fire. Funding is needed for certification, training, software and hardware necessary to provide pre-arrival instruction (until the emergency responder’s arrive on the scene). The next initiative step is to assure that these services are available throughout Florida for all of the citizens and visitors.

7. Statewide Language Translation Services

The ability to communicate effectively with a 911 caller is essential for any emergency response situation. With the number and diversity of international visitors, language translation is an essential service for Florida’s public safety agencies. Language translation services for call takers are available at the majority of PSAPs. This initiative includes the implementation of a statewide language translation service through the statewide NG-911 call routing system being developed in the first initiative. In addition to the spoken language services, the system will need to be able to eliminate language barriers dealing with implementations of text-to-911 and written languages. The advent of video messaging will also bring a need for emergency call translation services trained in sign languages, including American Sign Language for video calls to 911 from hearing impaired individuals.

8. Statewide ANSI Standards for Missing & Exploited Children

Another initiative is to safeguard and protect Florida’s children. 911 Public Safety Telecommunicators are the first responders for calls involving missing and sexually exploited children. Implementing and adopting ANSI Standard model policy guidelines statewide will establish a uniform protocol for handling these calls. 911 Public Safety Telecommunicators should be trained to assess risk and to take appropriate action to assist in the recovery and/or protection of children abducted or potentially being victimized.

The initiative involves working with the County 911 coordinators and the National Center for Missing & Exploited Children (NCMEC) on training and adoption of the ANSI Standards statewide.

The long-term strategic initiatives outlined in this section are all programs that are contingent upon adequate funding. The Board will support these initiatives at the local level through grants to the counties and funding of statewide programs to implement NG-911. However, the Board’s first priority must be sustaining the State’s current level of 911 service. With dwindling revenues, meeting today’s needs and funding the initiatives that will improve 911 service in our communities is becoming a challenge. But with support of the Legislature, counties, wireless service providers, LEC industry, and Board assistance programs implementation of many of these initiatives may be possible.