FirstNet in California

FirstNet State Plan Review Meeting – La Jolla, CA

July 11, 2017

The California Governor’s Office of Emergency Services held a FirstNet State Plan Review Meeting at UC San Diego in La Jolla, CA on July 11, 2017. Approximately 70 public safety stakeholders attended.

Welcome and Introductions

*Mitch Medigovich, Dep. Director, Logistics Management Directorate - Cal OES*

- Welcome & staff introductions.
- Review of agenda.
- Purpose
  - Present the FirstNet draft state plan for California.
  - Gather comments / Q & A session.
  - Must ensure the state plan meets your needs.
  - Important to capture areas needing service.
- 45-day window began June 19.
- Comments are due to FirstNet the first week of August.

FirstNet Update

*Kevin Nida – FirstNet CA Region Lead*

- **FirstNet overview.** FirstNet is more than just broadband network. It’s the first broadband network by public safety for public safety.
- **FirstNet has public safety professionals in the project.** FirstNet has experienced public safety professionals working to bring public safety users what they need.
- AT&T partnership brings FirstNet a large broadband network immediately, then adds sites, adds Band 14, and makes that network public safety grade.
  - Need AT&T’s years of telecom and wireless expertise.
  - Adding 20 MHz spectrum to AT&T, adding priority & preemption.
  - Program management is key to meeting milestones and five-year deadline.
  - AT&T brings a $180B network, telecommunications and site experience, secured network, technology and innovation experience - critical to FirstNet success.
- FirstNet learned through previous outreach process that it must listen to public safety.
- FirstNet is committed to listening to public safety to get the network and services suite built right.
- Important to get state’s input on coverage for correct input to state plan. Listening will continue through the life of the project.
- Discussed core design principles.
• FirstNet will leverage AT&T’s economy of scale with procurements.
• AT&T has ability to leverage users’ current devices.
• First responder access to the network is the key priority. Success of FirstNet to be measured by agency adoption. Coverage, capacity, and priority are the key to adoption.
• Adoption is totally voluntary. Each county is unique, and there will be many discussions on building out the network right over the next five years and beyond.
• **Design.** First step to success is getting an opt-in from the state. AT&T/FirstNet must still then earn business with better coverage.
  o **Solutions Overview.** Mandated to reach to 97% of US population coverage.
  o Committed to using 40,000 existing AT&T hotspots. Designing for 99.99% uptime.
  o Explained use of deployable site assets to fill temporary coverage holes.
  o Plan to use existing AT&T distributed antenna systems (DAS).
  o Agencies may deploy own temporary site, with AT&T/FirstNet approval.
  o Rate plans to be negotiated and competitive, and be easy for agencies to convert into.
  o **Bring Your Own Device (BYOD).** Any AT&T Long Term Evolution (LTE) device can be a FirstNet device now. Personal LTE devices are allowed at discretion of home agency; priority determined by home agency.
  o **Priority and Preemption.** Available now for data and Voice over LTE (VoLTE). Mission-critical voice preemption planned to be added into the Third Generation Partnership Project (3GPP) standard within a year.
• **Identity, Credential and Authentication Management (ICAM).** System to allow single sign-on across all applications and local control. Includes dual authentication.
• **Local Control.** One-stop web tool to manage devices, public safety home page, display network status (outages), priority levels, push-to-talk (PTT) groups, ICAM authorizations, and other related functions.
• **App development program.** FirstNet will steer developers for relevancy based upon public safety input in the initial phases. FirstNet does not want to tell users what apps they can have, but instead to help develop what they request.
• **FirstNet is not designed to replace LMR networks!** Rumors of such are incorrect. Applications are being developed for PTT integration of FirstNet into LMR. However, blending the broadband device / smartphone features into LMR radios is coming.
• **Training.** User training programs 24x7 for app training. Big component of the FirstNet mission.
• **Support.** 24x7x365 and staffed by public safety specialists.
• **Quality of Service, Priority and Preemption (QPP).** Metric to determine if the FirstNet network is meeting its mark.
  o **Quality of Service (QoS).** Reviewed metrics and options to determine quality of service.
  o **Priority.** Public safety makes up 2% of wireless carrier network traffic.
  o **Preemption.** Explained.
• **Review of state plan elements.**
• **Takeaways**
  o State plan is designed to provide comprehensive information, but is not able to answer every question.
This outreach process is designed to give most answers and to collect all feedback necessary to make a final plan. The timeframe for feedback is short due to the legislation and challenging, but the consultation process will continue after opt-in.

- State Single Point of Contact (SPOC) has critical role in consolidating and prioritizing feedback.
- Consultation to continue through state plan, delivery, and beyond.
- 25-year mission to ensure public safety users get the coverage, priority, preemption, and services they deserve.

**The Role of Cal OES**

*Budge Currier – Cal OES.* Reviewed Cal OES role, FirstNet outreach process, and the draft state plan.

- LMR PTT will remain in public safety industry. LMR will not be degraded by FirstNet, but instead be enhanced by FirstNet broadband capability integration for LMR subscribers.
- Explained the NextGen 911 process as separate and distinct from FirstNet. FirstNet’s role will be the data interface from computer aided dispatch (CAD) to mobile data computers (MDC0 and devices as is handled currently by commercial wireless carriers.
- Explained Cal OES’ role in representing public safety stakeholders in the FirstNet process, e.g., governance, state plan, and management of stakeholder priorities.
- The CalFRN mission and actions were explained. A broad base of public safety representation to include state, local, and tribal input is needed to best to determine California’s need.
- California Statewide Interoperability Executive Committee (CALSIEC) was explained in relation to the state plan.
- Explained timeline of state planning process.
- Described how California’s FirstNet priorities were developed through prior outreach process, how those priorities will get fed back into the state plan, and how Cal OES does not want just a few entities dominating the process or the plan.
- After August 4th, AT&T and FirstNet will work to integrate stakeholder feedback into the final state plan for California. When the plan is returned, Cal OES will determine how the final plan meets those needs.
- In process of finalizing a request for proposal (RFP) template for Opt-out so as not to lose time if needed.
- State plan to be delivered back to Governor in last part of September, which triggers a 90-day clock for the Governor to decide whether to opt in or opt out.
- Important for Cal OES to gather stakeholder input to address holes in draft plan, then ensure those issues are addressed in the final plan.
- Agencies should view input and plans in determination to subscribe or not subscribe (if opt-in).
- [www.firstnetincacalifornia.org](http://www.firstnetincacalifornia.org) has portal for feedback on plan.
- CalFRN obtained though outreach a list of priorities to develop California’s top priorities which are:
  - **Coverage.** Coverage everywhere and all the time is a possibility for 25 years down the road, but we must get the most critical areas addressed in the plan now. Asked for help determining which holes are most critical, obtaining their coordinates, along with information on how frequently responders travel there.
Network. Concern for how public safety will get data to the PSAP network - particularly to serve video.

Cost & Services
- Stressed critical need to get public safety feedback quickly to provide adequate feedback to FirstNet for the state plan via the feedback form or the online tool.
- Would like stakeholder comments from a regional perspective on opting in.
- We will have a FirstNet network in California regardless if AT&T is opted-in. Keep that in mind when reviewing the draft plan.

AT&T Public Safety Broadband Network Service

Scott Andrews, AT&T product and offering overview.

- AT&T has many ex-public safety professionals employed on the FirstNet project to ensure public safety needs are understood and met.
- FirstNet is an addition – not replacement – for LMR systems. Intent is mission-critical data today as a companion tool.
- Upon opt-in, FirstNet access in California via AT&T’s network begins immediately. Up to 150 MHz existing AT&T network, plus 20 MHz by Band 14 (not just Band 140).
- 64,000 sites, 40,000 hotspots, and 6,000 DAS are available nationwide to first responders upon opt-in.
- Pledging 99.99% up-time reliability. Coverage is redundant with high concentration of overlapping site coverage. Compared to percentage of site density in LMR being much lower.
- Priority for primary users will be available upon opt-in. Preemption availability estimated 4Q17.
- High reliability at primary sites from generators. All sites have battery backup of four-hour standard, and are moving to eight hours to meet FirstNet mission. Many sites already have eight-hour battery backup.
- Over 300 trailer mounted generators for sites without generator.
- QPP explained
  - QoS. Minimum and maximum service quality parameters.
  - Priority. Users preferred access. Priority user is next in que for available data resource when a contention exists.
  - Preemption. Terminates and relocates lower priority users to give priority users access.
  - With LTE, voice is option as VoLTE with QoS capability in the standard.

Described three user types
- 1- Primary (Law Enforcement (LE), Fire, Emergency Medical Services (EMS), Emergency Management Agencies (EMA)). Priority is an automatic feature and without charge.
- 2 - Extended Primary (Hospital, Utility, Transportation, Public Works) December 2017. Can be uplifted to priority user.
- 3 – Volunteer. If serving in LE/Fire role, then treated like a Primary user. If not, will mirror the priority of the agency they work for.

- Priority access will be available in all AT&T spectrum.
- LTE devices that don’t support Band 14 are viable in FirstNet upon opt-in. Lowers user price-point to migrate to FirstNet by extending life cycle.
- Primary users get priority and preemption at no additional charge.
• QPP is available on AT&T-managed networks. AT&T is working with their 35 roaming partners to implement the same QPP.
• Network saturation for public safety user becomes thing of the past.
• **Local Control.** Ability to monitor network geographically (similar to access given to Radio Access Network (RAN) engineers), gives real-time situational awareness. Ability to generate trouble tickets. Enable / disable devices directly. Agency can set priority directly for device and user. In unified command scenario, local agency can manage incident’s roamers directly for priority on the incident – no need to work with those users’ home agency. Can be set by COML, COMC, dispatch center, etc. Uplifted priority access setting can be set to automatically time out.
• **Software Application Program Interface (API) for CAD connections.** Public safety Internet Protocol (IP) network access API available from AT&T as currently offered. Agency CAD interface to FirstNet would be the same as current cellular network interface today. AT&T offers Private Mobile Connection – utilizes static or dynamic IP addresses, provides secure network to mobile clients.
• **California Law Enforcement Telecommunications System (CLETS) requirements.** Very similar to any CLETS cellular connections currently used.
• Deployable solutions and satellite overlay to address difficult areas to meet build-out requirements.
• **Reviewed public coverage maps.** Coverage plot is based upon -98 dBm RSL downlink (indoor) / -110 dBm RSL (outdoor). AT&T is taking coverage very seriously.
• Noted AT&T has invested $7.2B California RF network in past four years alone.
• Reviewed deployable assets. 72 deployables dedicated to FirstNet are being built by General Dynamics (GD).
• If an agency has Band 14-capable site equipment to consider homing onto the FirstNet core, AT&T is willing to talk about deploying on the FirstNet network.
• Emphasized Natural Disaster Recovery Program (NDR) team is dedicated full-time to mission. Full-time dedicated employees and dedicated assets. $1B invested in over 400 vehicles.
• If agencies want to purchase deployable sites, AT&T can give access to configurations being built by GD.
• **Satellite.** Partnered with Inmarsat for locations without coverage and deployable is not feasible or when delayed.
• Ultimate success is measured by user adoption.

*Shane Harper, AT&T FirstNet Sales Manager (FEMA Region 9)*

• Working on pricing to current contracts, such as National Association of State Procurement Officers (NASPO)/Western States Contracting Alliance (WSCA).
• Working with Cal OES to add to CALNET.
• Provided overview of pooled and individual plans.
• Prices presented are a first pass and will be published on www.firstnet.com soon.
• On opt-in, there is no requirement for users to migrate to FirstNet. AT&T must win user business.
• Discussed secondary users without QPP can add priority at $7.50/user.
• Further discounts will be available for those who join negotiated pricing contracts.
• Pricing will extend to any current LTE device.
• FirstNet device certification lab in Colorado will verify devices will perform as advertised and be public safety grade as advertised.
• There will be a full offering of accessories.
• For users writing their own application, they will submit the app to app store for validation testing and posting to app store.
• Noted that Virginia has just opted in to AT&T FirstNet plan.

Barb Winn, AT&T CA External Affairs Director

• Summarized AT&T local deployable assets and examples from recent and current deployments. She is the Cal OES to AT&T link for all disaster-related issues and resource requests for AT&T deployable equipment from incidents.
• Emphasized that public safety stakeholder comments on coverage are critical prior to opt-in. Working ahead of state plan, and welcomes stakeholder comment regarding AT&T coverage or other questions directly to her at:
  o Email bw1513@att.com
  o Phone: 916-541-9962

Questions and Answers / Public Comment

• Q: What is LMR? A: Land mobile radio, typically owned and used by an agency.
• Q: How to we give feedback on AT&T coverage today if we don’t use their service? A: (Budge Currier) We understand that you may not be familiar with AT&T coverage. In that case, just tell us where you absolutely need coverage.
• Q: Can we use the California Public Utilities Commission (PUC) application to determine upload and download speeds? A: (BC) Yes, but it may not be up to date. On the FirstNet site, you will see the coverage that AT&T is advertising. Remember to evaluate LTE coverage (versus 2G/3G).
• Q: If state opts in, would we need to switch our mobile data devices to FirstNet in order to get preemption, priority, etc.? A: (BC) Yes. If you did not, you will receive whatever priority, etc., that your carrier gives you today (in order to take advantage of FirstNet features, the user must be a FirstNet subscriber).
• Q: Is the AT&T FirstNet map a marketing map or technical map? A: (Shane Harper) It’s a marketing map. We are working on delivering a more granular map. (BC) It’s recommended that you click the indoor coverage option to get a more accurate map.
• Q: Is the 911 funding allowed to be spent on FirstNet, or can the state borrow from that account to fund FirstNet? A: (BC) No on both questions.
• Q: What is a greenfield site? A: (Scott Aandrews) It’s a new site built to provide coverage (versus a capacity site or infill site).
• Q: Will only Band 14 sites be secure, or will all bands at AT&T sites be secure? A: (SA) All sites will be secure.
• Q: Given many users will use personal devices, how will network security be handled at those devices? A: (SA) Dual factor authentication and other network design elements will ensure security on personal devices.
• Q: Where and how many network operations centers (NOCs)? A: (Barb Winn) The national NOC is on the east coast, and there are two NOCs in California (Sacramento and San Diego). AT&T will build a FirstNet-dedicated NOC.

• Don Root had concern if local agencies would have ability to contact NOC during major California disaster if the NOC was located out of the state.

• Q: How will FirstNet priority and preemption affect existing similar systems? A: (SA) This is a companion to Government Emergency Telecommunications Service (GETS). Voice priority is accomplished by VoLTE standard. It’s only provided for FirstNet on the AT&T network, however.

• Q: Will priority be given to other carriers’ IP backhaul network when served on an AT&T IP network? A: (SA) Needs to be researched.

• Q: Will AT&T FirstNet IP backhaul traffic for the cellular / FirstNet network be given IP priority when transitioning other carriers’ networks? A: (SA) Needs to be researched.

• Q: What is the plan to move subscribers to new Band 14 devices with manufacturers? A: (SH) AT&T is working with major manufacturers to get viable equipment migration plan to Band 14 capabilities. RFP from AT&T has been released to start the product base radio chip seeding. All but one manufacturer is working on it (Apple).

• Q: If we subscribe to FirstNet and the state has opted-in, do our voice calls go over the 2G/3G network still? A: (SA) Depends. You will be allowed to make a legacy call on the AT&T network. As AT&T deploys VoLTE, those calls will be handled on VoLTE. Budge noted that the subscriber phone determines if it makes a VoLTE call or not, and that will determine if priority and preemption is available via VoLTE. Emphasized FirstNet priority initially delivers Mobile Data Computer priority primarily. Cal OES is monitoring the situation regarding VoLTE buildout.

• Q: In regards to the tribal communities where LTE / VoLTE holes will continue, will you address that issue in the meeting on 7/27? A: (SA) Yes.

• Q: Will FirstNet data call priority trump 911 calls from non-FirstNet users (on the same cell/sector)? A: No, the 911 routing (VoLTE calls) is set to prioritize 911 VoLTE calls regardless of contention from FirstNet priority users.

• Q: For length of priority uplifting during extended incident durations (days-months), will we have to keep resetting user priority levels when they time out? A: (SA) No, priority can be set for extended periods of time as defined by the local control agency.

• Q: Can other agencies in the same area lower another agency’s priority settings without their consent? A: (BC) We envision Cal OES’ role in helping coordinate and mitigate that. We also need to answer the questions of when do public safety users alone start to saturate the FirstNet network in an area when on a large-scale incident. Cal OES will likely need to plan to mitigate this issue.

• Q: Will that local control be governed at the agency level, operational area level, or at what level? A: (BC) has asked for resources to help make these determinations, such as a FirstNet coordinator for each county in some areas. Other areas may work best with another solution. The decision will not be made at the state level and pushed on the locals. Cal OES needs ideas to insert policy into the Statewide Communication Interoperability Plan (SCIP).
• Q: Does the FirstNet contract with AT&T have defined network restoration times to avoid extended outages, such as in large fires like the Border Fire? 
   A: (SA) There are some timeframes and penalties in the contract, but we will need to research those for an answer. (BW) AT&T NDR resources will help mitigate this problem.

• Q: Do we need to change our CAD applications to allow for QoS, etc.? 
   A: No.

• Q: Are addresses on AT&T CLETS/Criminal Justice Information System (CJIS) compliant so we don’t need a virtual private network (VPN) client? Some carriers are offering projects that are CJIS compliant without a VPN. 
   A: They are compliant, but you must still use a VPN as required now. SA needs to confirm about the other carrier products that eliminate the need for mandatory VPN.

• Q: What is AT&T’s plan to enhance indoor coverage? 
   Q: We a looking for help locating and prioritizing those locations. Please provide this feedback to Budge (Barb will take that too). The holes will be addressed by new sites, DAS additions, etc.

• Q: Will there be the specific coverage holes for tribal areas be added better at the tribal meeting on 7/27? 
   A: Yes.

• Q: SA noted that AT&T received funding via Connect American Fund (CAF2) program to enhance coverage in rural areas by 395 sites in the next few years. That information will be updated to map in the final plan.

• Q: What is in plan to address any radio frequency (RF) interference from Band 14 LTE to existing LMR networks, similar to what occurs with Universal Mobile Telecommunications System (UMTS-A) providers currently from high downlink power nearby the UMTS sites? 
   A: There is no language in the plan addressing this. (BC) The state can help reach out to the Federal Communications Commission (FCC) local offices and pressure AT&T to mitigate the interference. Don’t anticipate the state plan addressing this because it is a FCC licensing issue.

• Q: Regarding coverage in detention facilities and restricting inmates from accessing cellular systems, are there plans to bring Band 14 into the facilities for public safety but still exclude the commercial bands to prevent use by inmates? 
   A: (SA) The state plan will not address this, but there are other industry circles addressing the issue.

• Q: Is the internal restoration priority for AT&T Hi-capacity circuits serving FirstNet going to be elevated to ensure the FirstNet network will get repaired quicker than our T1’s on Telecommunications Service Priority (TSP) which can be down for extended periods of time regardless of TSP? 
   A: (BW) AT&T has service level agreements internally, and we can discuss this offline.

• Q: Can each tribe get a dedicated deployable site? 
   A: Several options exist, including upgrading existing equipment to Band 14 and buying a deployable. As far as dedicating AT&T deployables to a tribe, those discussions are ongoing with FirstNet currently.

• Q: Why is AT&T making pricing so complicated? 
   A: (SH) This is what the marketing department gave us. We expect to see some changes. We are taking that feedback back to marketing.

• Q: What is the process for requesting an AT&T deployable now? 
   A: (BW) Winn manages program local and interfaces with NDR and local agencies. AT&T has warehouses for deployable
*all over California to deploy equipment immediately. FirstNet brings existing resources, but AT&T is updating local deployable site equipment with Band 14.*

Next Steps

*Budge Currier*

- Comments are critical to recommendation on opt-in / opt-out process. Would like to receive comment form from each attendee, and from all agency personnel who need to have a voice.
- Please submit within two weeks.
- Discussed how comments and priorities will be summarized and tracked in a spreadsheet to compare quality of final California plan, and how the five-year plan will address California specifically.
- Presented timeline of submissions, state plan review team timeline (two weeks), CalFRN, and next steps for the Governor.
- Listen for announcements on CalFRN board meeting to consider plan.
- Updates to state plan will be compared to California opt-out analysis. A request for proposal (RFP) template is being developed for opt-out plan.
- Explained planning for opt-out plan.
- Opt-in / opt-out is Governor’s decision. Expected mid-to-late December.
- Discussed plan for opt-in / opt-out presentation meetings to come.
- Presented web resources for stakeholders to review.
- Access to secure portal was delivered to those in state in the review process.
- [www.firstnetincalifornia.org](http://www.firstnetincalifornia.org) is point for entry of feedback to Budge and Cal OES.
- Call to give other stakeholders future meeting information schedule.

Meeting adjourned.