



# LOS ANGELES REGIONAL INTEROPERABLE COMMUNICATIONS SYSTEM AUTHORITY

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September 18, 2014

## **ADDENDUM A REQUEST FOR INFORMATION LOS ANGELES REGIONAL INTEROPERABLE COMMUNICATIONS SYSTEM – PUBLIC SAFETY BROADBAND NETWORK (PSBN) DEVICES RFI NO. LA-RICS 009**

This Addendum A forms a part of the Request for Information ("RFI") for the Los Angeles Regional Interoperable Communications System Public Safety Broadband Network (PSBN) Devices (RFI No. LA-RICS 009), issued September 2, 2014.

### **REVISIONS**

#### RFI

1. Section 1.1 (Purpose) – The second paragraph in Section 1.1 (Purpose) is deleted in its entirety and replaced with the following:

"The goal of this RFI is obtaining responses from multiple responsive, responsible firms regarding the following device categories:

1. Smartphone products
2. Routers (typically installed in-vehicle, IVR)
3. Tablet Computing Products
4. Modem Products (min-PCIe, USB dongles, etc.)
5. Other device types"

2. Section 3.6 (Other Respondent Information) – The first paragraph in Section 3.6 (Other Respondent Information) is deleted in its entirety and replaced with the following:

"In addition to the specific information sought in the organization and/or devices questionnaires, Respondents are encouraged to provide additional information that will assist the Authority in providing an avenue for public safety agencies to secure the appropriate devices that meet their specific needs, while minimizing operational challenges, cost and complexity to the Authority. Should the

Respondent have suggestions or recommendations for the Authority regarding these objectives, the Respondent is welcome to provide this additional information. Respondents who are willing to provide a separate test plan to address Exhibit A (Organization Questionnaire), question 3.02, item no. 4, should include and identify the test plan in this section. "

RFI Exhibit A (Organization Questionnaire) – Exhibit A has been deleted in its entirety and replaced with RFI Exhibit A, attached to this Addendum as Attachment A, to reflect the following revisions.

3. Question 3.02 – The first paragraph in Question 3.02 is deleted in its entirety and replaced with the following:

"The Authority, at this juncture, may make some level of Interoperability Testing (IOT) a mandatory component of device approval (and subsequent presence on a Master Agreement, should the Authority decide to move forward with purchasing these devices). Please note, however, that given this is just an RFI, the Authority has yet to determine if it will indeed procure these devices, either competitively or through sole source, and what those requirements will be. The Authority may consider the use of independent third party testing labs that are certified by industry representative entities (e.g., PTCRB [(PCS Type Certification Review Board] or GCF [Global Certification Forum]) to capture 3GPP specifications. The Authority's is looking for information that would assist in defining a full suite of IOT and other testing procedures and third party facilities that will make up the minimum acceptable tests to certify devices for use on the PSBN. As a result, the Authority has the following related questions with regards to testing and MNO IOT:"

4. Question 3.02, Item No. 4 –Item No. 4 in Section 3.02 is deleted in its entirety and replaced with the following:

"4. In regards to Authority IOT, what process and test cases does the Respondent recommend in addition to any PTCRB (or GCF) test cases? If Respondent wishes to provide a separate test plan, Respondent should include and identify the test plan in Section 3.6 (Other Respondent Information)."

5. Question 8.02 – Question 8.02 is a new question added to Exhibit A as follows:

"What are your guaranteed delivery timeframes (typical and worst-case) for devices to end-user agencies? Do you offer emergency device delivery (expedited)? If so, what is the timeframe for those devices and what are your limitations (e.g., quantities), if any for expediting delivery of devices? If your delivery timeframes vary per device, please indicate that variability in your response."

Question 9.01 – Question 9.01 is a new question added to Exhibit A as stated below. It is the Authority's desire to share the information from the RFI Responses with agencies provided in Attachment C (Agency List) to this Addendum, including those portions marked confidential, proprietary or trade secret. Therefore, Respondents shall indicate their firm's willingness to share the contents of their RFI Response on Question 9.01 of the revised Exhibit A (Organization Questionnaire) incorporated into this addendum as Attachment A.

"Please indicate if your company will authorize the Authority to share the contents and information in your company's Response to RFI No. LA-RICS 009 with those entities identified in Attachment C to this Addendum A, including those portions marked confidential, proprietary or trade secret."

RFI, Exhibit B – Exhibit B has been deleted in its entirety and replaced with RFI Exhibit B, attached to this Addendum as Attachment B, to reflect the following revisions.

6. Question No. 1 is deleted in its entirety and replaced with the following:

"Please provide the proposed price per device, inclusive of all costs (shipping, testing, warranty, handling, configuration, etc.) in quantities of individual units, 10, 100, and 1,000 or other breakpoints proposed by the Respondent.

Please provide the following pricing:"

7. Question No. 8 shall be deleted and replaced with the following:

8	Does the UE support 3GPP TS 36.306, Release 9, or above? Provide the UE Category of the device in the response.	Mandatory	
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8. Question No. 10 shall be deleted and replaced with the following:

"Will the device comply with Band Class 14 Power Class 1 (High Powered UE)? If so, please provide the actual receiver sensitivity, spectral mask, error vector, and other performance specifications of the proposed device in your response."

9. Question number 17 has been made "Mandatory".

10. Question Nos. 84, 85 and 86 have been added to Exhibit B.

**QUESTIONS**

Please note that the questions below represent questions asked by Respondents in the form and context in which they were verbally asked and/or submitted in a written format. However, some questions have been paraphrased, to the Authority's best ability, for purposes of clarity. The responses below represent the Authority's formal responses.

1. **Question:** Of the 12,000 devices, can the Authority estimate the quantity breakdowns by device category?

**Response:** No, not at this time. The Authority is currently working on a small-scale survey to identify the device breakdowns. If such surveys results become available, the Authority will share the response in the form of an addendum, however, this should not prevent Respondents from submitting a Response to this RFI.

2. **Question:** Please describe the relationship between BTOP grant recipient(s), the Authority, and vendor payments. In other words, what is the flow of funds from the granting agency to the device vendor(s)?

**Response:** The Authority is the direct recipient of the BTOP grant. As the direct recipient of the BTOP grant, the Authority submits claims to the BTOP granting authority for reimbursement of allowable expenses that meet the grant requirements.

3. **Question:** What is the timeframe for publication of the IOT procedures?

**Response:** Currently, there is no timeframe for the publication of the IOT procedures. The Authority is seeking information about testing procedures and certifications from the RFI responses. It is the Authority's objective to ensure that acquired devices not only meet the Authority's minimum requirements but also to provide the Authority's user agencies with a quality product. If the Authority proceeds with a subsequent solicitation, either competitively or sole sourced, the Authority may define the IOT requirements in the solicitation document.

4. **Question:** What funding (BTOP) is available for devices? What non-BTOP funding is available for devices and what is the dollar amount?

**Response:** The current BTOP budget includes \$10,000,000 USD specifically set aside for devices, however, this amount is subject to change depending on the total cost to build the PSBN infrastructure. As such, this amount may increase or decrease. The Authority also envisions obtaining additional grant funds from other granting agencies as well as the Authority's user agencies, however, an estimated dollar amount is not known at this time.

5. **Question:** Does the requirement to meet local jurisdictions device requirements align with PSBN requirements?

**Response:** The overall goal of the PSBN minimum requirements is to ensure that the devices meet certain operational standards and do not harm the PSBN. The device requirements of the Authority's user agencies may be more stringent due to the nature of the users' device functional needs (e.g. fire department personnel may have certain requirements regarding device heat sensitivity) therefore, local

end user agencies may have additional requirements for each device that they want to purchase.

6. **Question:** How will the Authority incorporate user devices that become available after the August 15, 2015 date?

**Response:** As technology improves and the needs of the user agencies change, the Authority may issue a subsequent solicitation(s) after the BTOP performance period end date of September 30, 2015, to allow submission of new devices and/or requalification of Contractors and addition of new Contractors to the list of qualified Contractors with a Master Agreement. However, the actual mechanism has not been determined by the Authority yet. The Authority does expect that any new devices will be operational on the PSBN and will not harm the PSBN.

7. **Question:** Was it mandatory for a Respondent to have participated in the RFI conference (via live attendance or conference call) in order to respond to the RFI?

**Response:** No, participation in the RFI Conference was not mandatory. RFI Responses will be accepted regardless of participation in the conference that took place on September 9, 2014.

8. **Question:** WebVen was mentioned on the conference call and I think it was recommended or maybe required that responders register. Can you provide some more detail on the registration process?

**Response:** WebVen is not required in order for a Respondent to submit a response to this RFI, however, it is highly suggested. If a subsequent solicitation is released by the Authority, it is likely that WebVen will be required. An online help guide can be accessed by visiting the webpage on <https://lacovss.lacounty.gov/LoginExternal/Forms/VendorHelpGuideMenu.pdf>.

9. **Question:** Will all the questions be compiled, answered and sent out to everyone that attended the pre-bidders conference?

**Response:** Yes, all the questions from the conference and that were emailed by the Questions Submission Deadline of September 11, 2014 at 5:00 p.m. PST are compiled and answered in this Addendum A. This Addendum A and any subsequent addenda will be posted on the Authority's webpage and the County of Los Angeles Bid Posting Website and distributed to those Respondents that participated in the RFI Conference.

10. **Question:** Which other carrier networks (Verizon, AT&T, Sprint, T-Mobile, etc.) should the devices be compatible with?

**Response:** Currently, the Authority's end-user agencies are known to use AT&T, Sprint, and Verizon. However, there may be some user agencies that are using

additional carriers. Ideally, each device would be compatible with all carrier networks; however, the Authority understands that may not be practical or possible.

11. **Question:** Can we get more information on the IOT process with the Motorola Solutions network?

**Response:** Yes, the contract specifications are provided below. However, Respondents should note that these requirements were not detailed and the Authority remains open to alternative approaches. The Respondent should therefore not assume that these will be the final end-user agency requirements, nor the minimum mandatory Authority requirements.

Please refer to Exhibit C.11, Table I.1, Narrative 21.7 of Agreement between Motorola Solutions, Inc. and the Authority for Los Angeles Regional Interoperable Communications System – Public Safety Broadband Network, Agreement No. LA-RICS 008. Please refer to Agenda Item No. 9 on the March 6, 2014 LA-RICS JPA Board Agenda to access Agreement No. LA-RICS 008. It is also attached as Attachment D to this Addendum A.

12. **Question:** Has there been any chipset evaluation thus far and, if so, are there any preferred solution providers?

**Response:** No. The Authority is looking for the device vendors to select and integrate the appropriate chipset that meets the public safety requirement.

13. **Question:** Just to clarify, it was mentioned on the call that the BTOP grant allocated for devices was \$10,000,000 USD.

**Response:** Please refer to the response to Question No. 4 to this Addendum A.

14. **Question:** Just to clarify, the dominant device need is for in vehicle installation.

**Response:** At this juncture, it appears the predominant device type in the initial agency roll outs will be vehicle based modems (including routers). However, the end user agencies have identified other form factors that are required and vendors are encouraged to provide a portfolio of handheld and other form factors to meet the aggregate need of the Authority at launch. In addition, the Authority expects handheld solution needs to grow over time. Please note that these are the Authority's current expectations and are not guaranteed.

15. **Question:** The RFI mentions that Motorola is obligated to provide 1,000 vehicular routers. Is the device specification for this router available for review?

**Response:** The specifications for the vehicular router can be found in Section 7.2 (Vehicular Routers) of Exhibit B.1 of Agreement between Motorola Solutions, Inc.

and the Authority for Los Angeles Regional Interoperable Communications System – Public Safety Broadband Network, Agreement No. LA-RICS 008 which can be accessed on Agenda Item No. 9 on the March 6, 2014 LA-RICS JPA Board Agenda. It is also attached as Attachment D to this Addendum A. It should be noted, however, that the attached requirements may not be the final requirements issued by the Authority for vehicular routers, any final requirements may differ. Additionally, local end users may have other requirements that are not covered by what is attached.

16. **Question:** RFI Section 1.1, page 1: What is the projected percentage breakdown between device types (Vehicle mounted devices, SmartPhones, Tablets, etc.) when considering the total number of devices that is estimated to be 12,000? Even a high-level, non-committing estimate would be helpful.

**Response:** Please refer to the response to Question No. 1 of this Addendum A.

17. **Question:** RFI Section 1.1, page 1: What are the LTE frequency bands needed/anticipated for roaming to commercial networks?

**Response:** The Authority does not have a comprehensive list of frequency bands required for each commercial carrier. The need for commercial operations will be based on the mandatory bands for each carrier. The Authority's expectation is that the vendor community already understands the band requirements through the carrier certification process. It should be noted that commercial support must include technologies other than LTE to support the full coverage footprints of the carriers. Please refer to Exhibit B, Question 11.

18. **Question:** RFI Section 1.2, page 9: Is there an estimate of the percentage of all devices that would fall under the BTOP grant funding, as opposed to purchases and funding by the end-user agencies? This info would be useful to understand the number of devices needed to be delivered by August 15<sup>th</sup> (non-vehicle devices), and the number of devices that could be potentially delivered after that date.

**Response:** No, the Authority does not have an estimate for the percentage of devices that are expected to be funded under BTOP at this time. An estimated breakdown of BTOP-funded devices cannot be provided because (1) the Authority does not have a detailed breakdown of device needs, (2) the available funds for devices are in flux, and (3) the Authority does not have vendor pricing for all required form factors. However, it is important to note that the Authority wishes to launch with the greatest number of users possible. Ultimately, this will depend on the makeup of agencies that participate at launch, their initial device needs, and the available BTOP funds.

19. **Question:** RFI Exhibit B, page 1: The term "Device Class" is used and it appears there are two possible options "1" and "3". Does the Authority mean "LTE Category" in this context? What if the device can support a higher category than "1" or "3"?

**Response:** The term Device Class (or UE Power Class) is defined in 3GPP TS 36.101. The PSBN is designed using UE power class 3 in the RF planning process. Note only UE power class 3 is intended to be a mandatory minimum requirement if the Authority issues a subsequent solicitation.

20. **Question:** RFI Exhibit B, page 3, question 3: Can the Authority provide some direction as to what level/types of IOT will be required for the devices, in order to allow the potential vendor to assess the cost of the IOT required?

**Response:** At this juncture, the Authority considers GCF or PTCRB test suites and certifications as the primary basis for the IOT. However, as indicated in the RFI and as discussed at the conference, the Authority is looking to the vendor community to assist the Authority in understanding the appropriate IOT requirements.

Please refer to Question Nos. 2 and 4 of this Addendum A if you are willing to provide a separate test plan.

21. **Question:** RFI Exhibit B, page 25, question 10: Is there interest by the Authority and need for dedicated High-Power UEs?

**Response:** Yes, the Authority is interested in a high power UE. Exhibit B, Question 10 refers to UE Power Class 1, which the Authority understands will be the 3GPP power class for the high power UE. Please note that the question has been modified for clarity.

22. **Question:** At the bidders conference you said you can't break down the 12,000 potential devices. To give us a general idea, can you tell us how many police cars, fire apparatus, and ambulances there are in the County?

**Response:** Please refer to the response to Question No. 1 of this Addendum A.

23. **Question:** Can you elaborate on page 5 "Commercial Operations" What is 'optional IPX'? What are some of the reasons 'this solution is a challenge to the Authority'?

**Response:** As part of its contract with Motorola Solutions, Inc., the Authority has pricing for IPX services. The IPX service costs are broken down into an initial upfront cost and annual costs. Those annual costs do not include the actual roaming usage fees. The total cost for roaming is then this annual IPX fee and the usage fees for a potential roaming partner. Due to the high cost of the annual IPX fee, the Authority is looking at other options, including a multiple subscription model and connecting directly to commercial carriers. Respondents are welcome to provide comment regarding better solutions to this issue.



24. **Question:** RFI Exhibit B, question nos. 1, 1.1, and 1.6: Regarding final cost, should that number reflect all possible optional accessories? Do you also want volume discounts listed for optional accessories as well? Can optional accessories be used to be considered compliant with specific requirements/questions?

**Response:** No response is required in the row associated with question 1, this row provides direction for questions 1.1 through 1.6. The final price provided in the response to question no. 1.1 should include all standard accessories in addition to costs for shipping, testing, warranty, handling, configuration, etc. Question 1.6 of Exhibit B should break out the individual optional accessory costs on a per accessory basis and including volume discounts as appropriate.

Yes, the Authority would like to see the volume discounts for the optional accessories. Also, if a device requires a specific optional accessory to be considered compliant with requirements and/or questions, then the Respondent shall identify the optional accessory and describe how the accessory enables the part to meet compliance.

25. **Question:** Exhibit B, All questions marked Mandatory. Are the mandatory requirement/question numbers 3, 5, 16, 17, 19, 56, 69, and 80 the only must have requirements? Is there a weighting structure to illustrate the criticality of the other questions/requirements? Is there a tiered preference structure that can be provided for the questions (High, Medium, Low)?

**Response:** The "Mandatory" questions are proposed Authority minimum requirements if the Authority issues a subsequent solicitation. They are not prioritized and all are currently considered mandatory, but that may change in any future solicitation. The remaining requirements represent what the Authority currently perceives as the net end user requirements. As noted in the RFI, Respondents are encouraged to suggest additional end user requirements or Authority minimum requirements for devices. The preference level of the agency requirements will be determined by the individual agencies and are not available at this time.

26. **Question:** Exhibit B, Question 3. Is there a cost limit assumed with IOT testing? Are there specific exemplar tests that can be provided to gauge total potential effort/cost?

**Response:** No, there is no cost limit assumed with IOT testing. Please refer to the RFI with regards to questions that the Authority has regarding IOT testing. The Authority currently anticipates that PTCRB conformance tests will serve as the baseline for IOT testing and will potentially include OMA-DM extensions.

27. **Question:** Section 3.5, page 12, paragraph 4, regarding availability of devices (and related questions in Exhibit B). Does the device's LTE Band 14 have to be

FCC certified prior to IOT? Is it acceptable to have a non-certified prototype device that supports the band and to achieve certification once selected? Is it highly desired or mandatory to be 3GPP Rel. 9 or higher or is it acceptable to partially meet this criterion?

**Response:** FCC certification is currently considered a mandatory Authority requirement. The order in which the device is IOT and FCC certified is at the discretion of the device provider, but all risks and costs to do so are borne by the device provider. In all cases where Exhibit B references specific 3GPP standards (e.g. 3GPP TS 36.101), the intended meaning is that the standard to be applied is contained in Release 9 of the 3GPP standards, or the future evolved equivalent of that standard that applies to future releases.

28. **Question:** RFI Section 3.4, Exhibit A – Organization Questionnaire - The RFI states “The Respondent's Exhibit A (Organization Questionnaire) response shall be provided in a narrative format...” Regarding narrative format, please confirm that we are to respond via the table in the Word document provided and that the Authority is not seeking a narrative document outside of the table in the Word document provided.

**Response:** Yes, please respond in narrative form within the table in Exhibit A. Note that there are other narrative form responses in Section 3.3, Corporate Overview and Executive Summary; Section 3.5, Exhibit B – Device Questionnaire (as appropriate); and Section 3.6, Other Respondent Information .

29. **Question:** Section 3.6 – Other Respondent Information - Will LA-RICS be providing local agencies with guidance to ensure the local agency specifications are based on approved NPSBN functional requirements or will LA-RICS allow agencies to specify vendor proprietary capabilities and/or purchase devices outside of the LA-RICS contract vehicle?

**Response:** To the extent available (e.g., the FCC Technical Advisory Board requirements have been integrated into these requirements), NPSBN requirements have been integrated. However, to the Authority's knowledge, FirstNet has not released any additional “approved NPSBN functional requirements.” Local end user agencies may choose to purchase devices outside of LA-RICS, but any devices that operate on the PSBN will have to meet the Authority's minimum requirements.

30. **Question:** Section 3.6 – Other Respondent Information - How will local agency specifications be evaluated to ensure they do not conflict with NPSBN requirements?

**Response:** The known NPSBN mandatory requirements will be mandatory for devices to be provisioned on the PSBN. Devices that do not meet known NPSBN mandatory requirements will not be permitted to operate on the PSBN. Therefore,

agency specifications that conflict with NPSBN mandatory requirements will not be permitted. If the vendors have knowledge of such conflicts, they should address the risks and issues in the “Other Respondent Information” section.

31. **Question:** RFI Exhibit A, Question 3.02 - Is LA-RICS working the FirstNet/PSCR to develop an IOT procedure and test facility, or does LA-RICS intend to work with a third party test lab to develop an IOT procedure and test facility?

**Response:** It is the Authority's hope that through this process FirstNet will identify an IOT procedure and test facility. In the event that this is not feasible, the Authority will evaluate vendor responses to this RFI to help identify potential test facilities and IOT procedures. FirstNet has indicated that it is not yet prepared to provide any direction with regards to device related requirements. However, the Authority intends to collaborate with FirstNet on this RFI and any subsequent solicitations, as well as share RFI Responses with the consent of the Respondents.

32. **Question:** RFI Section 1.1 – Purpose - Can LA-RICS describe the process for adding devices, under development, which are not ready for IOT in January but would be available within the first year of network operation? Can UEs be added to the LA-RICS contract on an on-going basis?

**Response:** LA-RICS is still evaluating the contracting model to be used, including through a Master Agreement. See refer to the response for Question 6 of this Addendum A.

33. **Question:** RFI Section 1.2 – Background - Are individual agencies being encouraged to continue their own relationships with commercial carriers, or does LA-RICS intend to “bundle” private network and carrier service?

**Response:** The Authority and its members have not yet decided the Authority's role regarding commercial roaming with the carriers.

34. **Question:** RFI Exhibit A, Question 7.01 - Does LA-RICS prefer to be the UICC supplier for subscribers on the LA-RICS network? If the UE vendors were suppliers of UICCs, is there a qualification process for third-party UICCs?

**Response:** There has been no decision regarding the sourcing and logistics with regards to UICCs. This is precisely the kind of information the Authority is seeking of the vendor community in Exhibit A, Question 8.01. As part of the qualification process, the Authority is considering the use of certification organizations such as the GCF and/or PTCRB, IOT testing and a declaration of conformance to the GSMA Security Accreditation Scheme.

As further assistance to the vendor asking this question note that these UICCs will be a component in IOT testing that makes use of an OMA-DM 1.2v server with standard and potentially extended managed objects that the UICC must support.

**35. Question:** What are the delivery timeframes required by the Authority? Does the Authority require emergency supply of devices?

**Response:** The Authority expects delivery of new devices for typical orders within one week but no greater than 30 days. The Authority does require emergency supply of devices by the next business day. The Authority expects the agency requirements with regards to delivery timeframe to be addressed in the Work Orders. Please see the additional question 8.02 in Exhibit A to address this requirement.

The proceeding revisions as identified above have been made to the RFI and its exhibits. It is each Proposer's sole responsibility to ensure that its Proposal is updated to reflect all revisions in this Addendum A and that the revised versions of Exhibit A and Exhibit B are completed and submitted with an RFI Response.

Except as expressly modified by this Addendum A, all other terms and conditions of this RFI shall remain unchanged.

**Please be advised that the deadline to submit responses to RFI No. LA-RICS 009 continues to be September 30, 2014 at 5:00 p.m. PST.**

Very truly yours,

  
PATRICK J. MALLON  
EXECUTIVE DIRECTOR

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Attachment

<b>ORGANIZATION QUESTIONNAIRE</b>		
	<b>Question/Information Request</b>	<b>RESPONSE</b>
<b>1.0</b>	<b>ORGANIZATION</b>	
1.01	Describe your organization.	
1.02	Describe any current or previous government customers you have and any Public Safety applications or devices you have built.	
1.03	What device(s) are you providing information on in response to this RFI? Please provide model numbers and device types (See Exhibit B, Device Questionnaire, for list of types).	
1.04	Please describe your companies past history relative to the Public Safety (PS) marketplace in the US.	
1.05	Describe the size and locations of your organizational units, particularly the location of manufacturing and support units.	
1.06	Describe your expertise with Long Term Evolution (LTE) technologies.	
1.07	Describe your sales volume by device category (e.g., smartphones, tablets, in vehicle modems, etc.) in the US and globally.	
1.08	Please list any relevant reference customers you have in the Public Safety market in the US.	
1.09	Are you currently providing devices to any public safety early builders (e.g., Adams County, Harris County/Texas, etc.)?	
<b>2.0</b>	<b>OPERATIONS AND SUPPORT</b>	
2.01	Describe, at a high level, any training material (books, online, instructor-led) you provide.	
2.02	Define your customer support center proposal and tiers of escalating support.	
2.03	How do you manage software upgrades for phones being inventoried or otherwise stored prior to delivery?	
<b>3.0</b>	<b>QUALITY CONTROL OVERVIEW</b>	
3.01	Describe how you <u>currently</u> test your devices, including any work you do with external, internally, or operator testing laboratories.	

<b>ORGANIZATION QUESTIONNAIRE</b>		
	<b>Question/Information Request</b>	<b>RESPONSE</b>
3.02	<p>The Authority, at this juncture, may make some level of Interoperability Testing (IOT) a mandatory component of device approval (and subsequent presence on a Master Agreement, should the Authority decide to move forward with purchasing these devices). Please note, however, that given this is just an RFI, the Authority has yet to determine if it will indeed procure these devices, either competitively or through sole source, and what those requirements will be. The Authority may consider the use of independent third party testing labs that are certified by industry representative entities (e.g., PTCRB [(PCS Type Certification Review Board] or GCF [Global Certification Forum]) to capture 3GPP specifications. The Authority's is looking for information that would assist in defining a full suite of IOT and other testing procedures and third party facilities that will make up the minimum acceptable tests to certify devices for use on the PSBN. As a result, the Authority has the following related questions with regards to testing and MNO IOT:</p> <ol style="list-style-type: none"> <li>1. Will PTCRB test cases ensure Public Safety Grade devices?</li> <li>2. Should the Authority rely upon PTCRB certification without change? Please describe any recommended enhancements to PTCRB test cases, processes, or other.</li> <li>3. Does the Respondent believe Global Certification Forum (GCF) provides any advantage to the Authority with respect to device testing?</li> <li>4. In regards to Authority IOT, what process and test cases does the Respondent recommend in addition to any PTCRB (or GCF) test cases? If Respondent wishes to provide a separate test plan, Respondent should include and identify the test plan in Section 3.6 (Other Respondent Information).</li> <li>5. How do you recommend that the Authority ensures compatibility and interoperability with the Authority's planned Band Class 14 infrastructure including its OMA-DM platform? Are there independent and certified labs with the appropriate equipment to ensure interoperability with the PSBN?</li> </ol>	

<b>ORGANIZATION QUESTIONNAIRE</b>		
	<b>Question/Information Request</b>	<b>RESPONSE</b>
3.03	Should the Authority standardize on PTCRB, GCF, or other certified test facilities for 3GPP related IOT? Please explain the rationale for your position.	
3.04	What tests, labs, etc. should the Authority require, if any, regarding other IOT related compatibility issues (e.g., OMA)? Please explain the rationale for your position.	
3.05	What other tests and labs do you recommend to achieve the goals outlined in the body of the RFI that results in approved devices that can operate on the PSBN without harming the PSBN or other users of the PSBN yet allow the maximum flexibility to agencies to select devices that meet their specific needs?	
3.06	Are you willing to incur the full cost of all testing (IOT) and other testing to be defined by the Authority prior to a Master Agreement award if the Authority elects to proceed with procurement? If there are conditions or limits regarding your willingness to do so, please state those clearly in your response.	
<b>4.0</b>	<b>SOFTWARE LICENSING MODELS</b>	
4.01	What forms of software licenses do you currently provide for your devices?	
4.02	How long do you guarantee support for your software? Provide standard software maintenance terms.	
4.03	Do you offer any customization options for your products (e.g., agency specific software images, customized software)? What is your general process and terms for such customization?	
<b>5.0</b>	<b>PRODUCT PLANNING OVERVIEW</b>	
5.01	Provide near, mid and far-term product development roadmap charts - how often do you release new versions of hardware and software and roughly when (i.e., what time of year)?	
5.02	Describe your organizational approach to product planning, management, development, and marketing	
5.03	Who are your major component partners for your hardware (e.g., who provides your LTE and CPU chipsets)?	

<b>ORGANIZATION QUESTIONNAIRE</b>		
	<b>Question/Information Request</b>	<b>RESPONSE</b>
5.04	Who are your major software suppliers (e.g., operating system)?	
5.05	What is your process for supporting feature requests, feature prioritization, and the Authority's specific roadmap items?	
5.06	Do you offer "custom labeling" of your devices (e.g., an agency or Authority logo on the product or a boot splash screen on devices with displays)? Please provide the details of your offering if yes.	
<b>6.0</b>	<b>PRODUCT SUPPORT OVERVIEW</b>	
6.01	Describe your basic warranty plans and the major provisions, along with any optional ones.	
	What is the period of time for which you guarantee hardware support (repair, returns)? Where are your repair facilities located? Are there accelerated return options available?	
6.02	Describe your basic return and repair policies (including any partnerships or suppliers used as part of them), including return merchandise authorization.	
6.03	How do you manage software and firmware upgrades for your devices, and how would you work with the Authority's device management processes in that regard?	
6.04	What support do you provide for training and documentation associated with your product(s)?	
6.05	What is your process for supporting feature requests, feature prioritization, and the Authority's specific roadmap items?	
<b>7.0</b>	<b>SEPARTATELY SUPPLIED UICC</b>	
7.01	Will you supply UICCs to the Authority as standalone orderable items? If yes, please specify your minimum quantity policy, your pricing, and indicate in your response if the supplied UICCs are GSMA Security Accreditation Scheme certified.	



<b>ORGANIZATION QUESTIONNAIRE</b>		
	<b>Question/Information Request</b>	<b>RESPONSE</b>
<b>8.0</b>	<b>DEVICE LOGISTICS</b>	
<b>8.01</b>	<p>The Authority is looking to the vendor community to help identify an efficient logistics process for device management and provisioning on the PSBN. Authority user agencies are expected to have access to provision devices on the PSBN. However, there are a number of coordination issues that must be established (e.g., UICC provision and configuration – including population of the appropriate IMSI, delivery of UICC for insertion into the UE, provision and configuration of the UE, delivery of the completed product to the end-user agency, and provisioning on the PSBN, all while maintaining tight security and integrity of the process and establishing asset management best practices. In addition, the process must identify returns and repairs.</p> <ol style="list-style-type: none"> <li>1. What recommendations do you have with regards to the best process that can achieve an efficient and secure process? Can this be accomplished without a third party logistics manager?</li> <li>2. The Authority desires to build any costs for these services into each device. How can this be achieved? Indicate your ability to meet some or all of the Authority's device logistic needs. Please include any comments for improvement to this particular request.</li> <li>3. If your business provides logistic services regarding similar device management, list reference customers and services rendered.</li> </ol>	

<b>ORGANIZATION QUESTIONNAIRE</b>		
	<b>Question/Information Request</b>	<b>RESPONSE</b>
<b>8.02</b>	What are your guaranteed delivery timeframes (typical and worst-case) for devices to end-user agencies? Do you offer emergency device delivery (expedited)? If so, what is the timeframe for those devices and what are your limitations (e.g., quantities), if any for expediting delivery of devices? If your delivery timeframes vary per device, please indicate that variability in your response.	
<b>9.0</b>	<b>WILLINGNESS TO SHARE INFORMATION</b>	
<b>9.01</b>	Please indicate if your company will authorize the Authority to share the contents and information in your company's Response to RFI No. LA-RICS 009 with those entities identified in Attachment C to this Addendum A, including those portions marked confidential, proprietary or trade secret.	

## Device Questionnaire

**This Exhibit B (Device Questionnaire) shall be completed and provided for EACH proposed device.** Each device document shall contain the Exhibit B (Device Questionnaire) table with a completed response entry; enter N/A if the item does not apply. Please retain the first column's numbering schema.

For Device Type, choose among the following types (More than one option may apply to a single device.):

- smartphone,
- rugged PC or laptop
- rugged smartphone,
- USB modem,
- tablet,
- PC Express,
- rugged tablet,
- mini PCIe,
- router (multi-modem),
- generic modem (enclosed single modem with Ethernet port),
- PCIe,
- other (indicate the type of device)
- personal computer (with embedded modem)

Device Name:	
Device Manufacturer:	
Device Model Number:	
Device Type:	
Device Class {1,3}:	
Device Frequency/Bands Supported:	
Device LTE Modem Used:	
Device Firmware/Software Version:	
Device Processor Type and Speed:	
Device Storage Capacity (include volatile and non-volatile storage and memory):	
Device dimensions in inches	
Device weight in ounces:	

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
1	<p>Please provide the proposed price per device, inclusive of all costs (shipping, testing, warranty, handling, configuration, etc.) in quantities of individual units, 10, 100, and 1,000 or other breakpoints proposed by the Respondent.</p> <p>Please provide the following pricing:</p>		
1.1	Base Device Cost (hardware, including the standard accessories)		
1.2	Software Licensing Cost (include all options and applications and their prices)		
1.3	Warranty Cost (please indicate the basic warranty period identified in Exhibit A, Question 6.01)		
1.4	Extended Warranty Cost (Please indicate the term(s) available for the extended warranty. If possible, provide the pricing for 1, 2, and 3 year increments).		
1.5	Describe the pricing associated with the basic return and repair policies as indicated in Exhibit A, Question 6.02. Also, please describe the pricing for repairs outside of the warranty period.		
1.6	Optional Accessories (please specify the accessory and the cost)		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
2	<p>Will this device (early samples, prototypes included) be available for Authority IOT and other testing in January 2015? Please use the response area to indicate the earliest available date and the status of the device on that date (e.g., prototype, early production, or generally available).</p> <p>This request is driven by the desire to have devices tested sufficiently in advance of large-scale manufacturing and installation.</p>		
3	Will you fully fund all IOT testing required by the Authority for the device?	Mandatory	
4	Will the device be generally available in mass quantities (hundreds or thousands) by May 15, 2015 for installed products and July 15, 2015 for non-installed products? Provide in your response the date when you will begin manufacturing the proposed device and when you will be able to provide the device in mass quantities.		
5	Does the device comply with Band Class 14 Power Class 3? Please provide the actual receiver sensitivity, spectral mask, error vector, and other performance specifications of the proposed device in your response.	Mandatory	
6	Does the UE have external antennae ports? Include the number and type of ports in your response.		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
7	If the UE has external antenna(e) ports provide description of external antennae supplied (e.g., LTE MIMO, Wi-Fi MIMO, etc) and antennae description.		
8	Does the UE support 3GPP TS 36.306, Release 9, or above? Provide the UE Category of the device in the response.	<b>Mandatory</b>	
9	Does the UE support 3GPP TS 36.306, Release 10, or above? Provide in the response the UE Category of the devices. If the device will not support Release 10 or higher by July 2015, please specify the date by which it will comply with the requirement. In addition, indicate any R10 features not supported by the device.		
10	Will the device comply with Band Class 14 Power Class 1 (high power UE)? If so, please provide the actual receiver sensitivity, spectral mask, error vector, and other performance specifications of the proposed device in your response.		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
11	<p>Does the UE also support commercial wireless carrier operations?</p> <p>If the device supports one or more carriers, please identify the following:</p> <ul style="list-style-type: none"> <li>• list the carriers (with details regarding the bands and technologies supported) the UE supports and the technologies and bands supported,</li> <li>• if the carrier has certified your device for operation on its network and the date of certification in your response,</li> <li>• indicate if the device can be modified via a DM OTA process to modify the PSBN-roaming partner pair ("OTA upgradable"),</li> <li>• if the device can be modified in the field ("field upgradable") with every PSBN-roaming partner pair, and</li> <li>• how the device can achieve this capability (e.g., dual SIM, multiple modems/SIMs).</li> </ul>		
12	<p>Does the device include multiple UICC/SIMs? If yes, please provide details regarding your implementation to include the maximum number of UICC/ SIMs and provide the form factor supported for the UICC/SIM. In addition, indicate if the UICCs/SIMs can be changed in the field without voiding any warranties or impacting the integrity of the environmental compliance of the device.</p>		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
13	<p>Does the device support multiple modems? If yes, provide the number and form factor of the supported interfaces (e.g., PCIe), indicate if the modems be changed in the field without voiding any warranties, and indicate the device's driver support to accommodate off-the-shelf modem products from the commercial wireless carriers.</p>		
14	<p>The Authority's users desire transitions between the PSBN and commercial networks with minimal delay and the highest possible quality of experience. If the device supports multiple UICC or modems and assuming a switching approach (not traditional roaming), provide the following information:</p> <ul style="list-style-type: none"> <li>• What is the delay in the transition (seconds or fractions of seconds)?</li> <li>• Does your device support any capabilities that would allow seamless voice (either VoLTE or CSFB)?</li> <li>• Please describe how your device manages these transitions (i.e., address whether it uses an integrated MVPN solution or a third party MVPN solution).</li> </ul>		



<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
15	<p>Does the device support traditional roaming (full IPX interconnection between the roaming MNO partner and the PSBN)? If so,</p> <ul style="list-style-type: none"> <li>• indicate the carriers supported with this option for this device,</li> <li>• the transition speed (delay in seconds), and</li> <li>• if the device can be modified via a DM OTA process include this feature with every PSBN-roaming partner pair ("OTA upgradable").</li> </ul> <p>If a device can be modified in the field via an accessible card slot indicate ("field upgradable"). A field upgradable process must not void any warranties.</p>		
16	Does the device support interworking with the USIM/USAT applications in the UICC per 3GPP 31.101, 31.102 and 31.111?	<b>Mandatory</b>	
17	Is the device fully compliant with all FCC Technical Advisory Board minimum requirements?	<b>Mandatory</b>	
18	Must the UICC(s) used in the proposed devices (UEs) be supplied exclusively by the vendor? The intention of the question is to discover if the device utilizes an embedded UICC, or a fixed enclosure that prohibits installing third-party UICCs.		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
19	If the UICC must be installed by the manufacturer, are the UICCs supplied certified by the GSMA Security Accreditation Scheme?	<b>Mandatory</b>	
20	Does the device support an environmental ambient temperature of 0 to 130 degrees Fahrenheit? Operational tests are defined in MIL-STD-810G. If not, provide the device's operating range.		
21	Does the device support an environmental ambient temperature of -22 to 140 degrees Fahrenheit or better? Operational tests are defined in MIL-STD-810G.		
22	Is the device intrinsically safe? Reference UL, or similar test method.		
23	Is the device shock resistant? Shock tests are defined in MIL STD-810G, 515.6, transit drop. List non-fix mounted devices (smartphones and tablets) that survive shock tests from 90cm. If different test method is used, identify and provide a short description of the test method.		
24	Is the device vibration resistant? Vibration testing is defined in MIL STD-810G, Method 514.6. If different test method is used, identify and provide short description of the test method.		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
25	Does the device have a rugged cover and/or protective screen cover? Does the cover include a hand strap? What is the shock resistance, transit drop, and ingress protection (IP) of the solution with the rugged cover on the device?		
26	Does the device have two or more Ethernet RJ-45 ports (10/100/1000)? Provide the number and capabilities of the Ethernet ports, if available.		
27	Does the device have one or more USB ports? Provide in your response the USB version supported, the number of ports, and the capabilities of the device via the port(s). Can the USB ports be disabled? <ul style="list-style-type: none"> <li>• Does the device offer a compatible Serial Port adaptor?</li> <li>• Does the device offer a compatible HDMI adaptor?</li> <li>• Does the device offer a compatible VGA adaptor?</li> </ul>		
28	Does the device support OBD- II, HDOBD or other standard on-board vehicle diagnostic interface? Provide in your response the interfaces supported.		
29	Does the device meet intrusion protection (IP) of IP54 or better without the use of a third party enclosure?		
30	Does the device meet IP66 or better without the use of a third-party enclosure?		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
31	If the device operates using a battery, indicate if the device is capable of typical operations over a 10 hour period without recharging. Please provide the expected operational time, battery size (mAh), and assumptions regarding operational parameters.		
32	Does the device include integrated audio (speaker and/or microphone)? Please describe the capabilities in your response.		
33	Does the device include an integral speaker(s) that is louder than customary in consumer devices? Please provide details in your response.		
34	Does the device make use of noise cancellation technology? If yes, please provide noise cancellation capabilities.		
35	Does the device have an integrated user display? If yes, please provide the display size in the response.		
36	Is the display designed for outdoor use?		
37	Is the display a touch screen? If yes, please describe the type of display (e.g., five point capacitive touch screen)? Is the display designed to operate even when the user has gloves on?		
38	Does the device have a detachable keyboard? Is it included in the base system price?		
39	Does the device have a pen digitizer (e.g. s-pen)? This pen will allow the user to take notes, do Mark Ups and capture signatures.		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
40	Does the device have a graphic card? If yes, please list the specifications. Can the device support streaming video?		
41	Does the device have a microphone and camera? If so, please identify the capabilities of these devices (front/rear facing, image size in megapixels, video resolution, etc.)		
42	Does the device have the capability of installing enterprise software (e.g. Microsoft Office Suite, Adobe Acrobat Pro, etc.)?		
43	Is a docking station available for the device? If so, please include the cost and capabilities (external antenna ports, connectors, etc.)		
44	Does the device have an electronic card swipe for driver licenses and credit cards? Does the device have the capabilities of a fingerprint swipe?		
45	Does your device price include Microsoft Office? If yes, please indicate which version is included.		
46	Does the device support Wi-Fi station protocol IEEE 802.11b/g/n with supported MIMO configuration? Provide EIRP in your response.		
47	Does the device support Wi-Fi Access Point (AP) protocol IEEE 802.11b/g/n with supported MIMO configuration? Provide EIPR and indicate if the AP has external antennae port or integral antennae.		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
48	Does the device support IEEE 802.11i (which is now incorporated in IEEE 802.11-2007)?		
49	Does the device support multiple SSIDs?		
50	Does the device support IEEE 802.11a Wi-Fi STA or AP protocol? Provide EIRP and indicate if the AP has external antennae ports for vehicle roof mounting purposes. (e.g. SKU 5 with external Wi-Fi antenna port)		
51	Does the device support the public safety 4.9 GHz band (AP and/or STA)? If yes, please specify the details of the capabilities in the response.		
52	Does the device support Wi-Fi station protocol IEEE 802.11ac with supported MIMO configuration? Provide EIRP in your response.		
53	Does the device support Wi-Fi Access Point (AP) protocol IEEE 802.11ac with supported MIMO configuration? Provide EIRP in your response and indicate if the AP has external antennae ports and the type of port.		
54	Is the device compliant with 3GPP TS 23.402 (known as "ANDSF") or does it have Wi-Fi alliance "Passpoint" certification? If yes, indicate which applies.		
55	Does the device have the following Wi-Fi Alliance certifications:		
55.1	Passpoint		
55.2	802.11n		
55.3	802.11ac		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
55.4	Miracast		
55.5	Voice Programs		
55.6	WMM		
55.7	Direct		
55.8	WiGig		
55.9	Protected Setup		
56	Can Wireless Protection Setup (WPS) be disabled, if the device has such a capability? Note: Disabling WPS will likely be an Authority cybersecurity requirement.	<b>Mandatory</b>	
57	Is the device fully compliant with CJIS and CLETS requirements? If not, please explain.		
58	Does the device support Bluetooth? If so, please provide details in the response regarding the version and profiles supported.		
59	If the device supports Bluetooth, can it be disabled? How is the device CJIS compliant? The CJIS Security policy states the following relative to Bluetooth: "The cryptographic algorithms employed by the Bluetooth standard are not FIPS approved. When communications require FIPS-approved cryptographic protection, this can be achieved by employing application-level FIPS-approved encryption over the native Bluetooth encryption."		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
60	Does the device provide geolocation technologies? Please describe the device's capabilities and technologies used/supported in the device (e.g., aGPS, inertial dead reckoning).		
61	Does the device include internal software to communicate geolocation with centralized location systems? If so, please describe the standard formats supported.		
62	<p>If the device includes an integrated location solution, does it comply with the following 3GPP and OMA location specifications:</p> <ul style="list-style-type: none"> <li>• 3GPP TS 36.355 (LTE positioning protocol)</li> <li>• Secure User Plane Location protocol as specified in: <ul style="list-style-type: none"> <li>○ OMA-RD-SUPL-V3_0 (requirements)</li> <li>○ OMA-AD-SUPL-V3 (architecture)</li> <li>○ OMA-ERELED-SUPL-V3_0 (enablers)</li> <li>○ OMA-TS-ULP-V3_0 (user plane protocol)</li> </ul> </li> <li>• Mobile Location Protocol services as specified in <ul style="list-style-type: none"> <li>○ OMA-RD-MLS-V1_3 (requirements)</li> <li>○ OMA-AD-MLS-V1_3 (architecture)</li> <li>○ OMA-ERELED-MLP-V3_1 (enablers)</li> <li>○ OMA-LIF-MLP-V3_3 (mobile location protocol)</li> <li>○ OMA-TS-LPPe-V1_1 (LPP extensions)</li> </ul> </li> </ul>		



<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
63	<p>What is the maximum number of APNs that your device supports? Please provide an explanation of the constraints that limit the number of APNs.</p> <p>LA-RICS may require private and third-party cloud services to support the multiple agencies within the LA area in addition to multimedia voice services (e.g. VoLTE NG9-1-1 dispatch), as well as OTA device management.</p>		
64	<p>Provide the maximum number of simultaneous bearers that the device supports. Can the device accommodate modifications to an existing bearer to affect a change in QCI values?</p>		
65	<p>If the device's MVPN masks (encrypts) the application's IP 5-tuple, how will the device's packet filters map those packets into the appropriate bearer?</p>		
66	<p>Is your MVPN implementation compliant with RFC 4301, which is part of the CJIS requirements? Does your MVPN implementation support Tunnel Mode using the Encapsulating Security Payload (ESP) protocol?</p>		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
67	The questions above concerning MVPN were crafted to understand how the Authority can implement QoS solutions where the device (or its applications) encrypts IP header packets by the MVPN application. Are there any other impediments to managing QoS in such an environment? If so, please specify what those might be. Additionally, are there other solutions you suggest that addresses the MVPN QoS use case?		
68	Provide the MTBF and base warranty for the device. Provide any details in the response regarding the terms of the warranty and any offerings for extended warranties for the device.		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
69	<p>The device policies must be settable via OMA-DM 1.2v or higher compliant managers. Does the device include an OMA DM 1.2 v or higher client?</p> <p>Does the device meet the minimum OMA DM management objects? If not, please explain.</p> <ol style="list-style-type: none"> <li>1. Basic Protocol: OMA-RD-DM-V1_2-20070209-A</li> <li>2. Firmware Update Management: OMA-RD-DM-V1_2-20070209-A</li> <li>3. Lock and Wipe Management: OMA-RD-LAWMO-V1_0-20080610-C</li> <li>4. Connection Management Object (ConnMO): OMA-RD-ConnMO-V1_0-20081024-A</li> <li>5. DiagMon</li> </ol>	Mandatory	
70	<p>Does the device support OMA DM management objects in the list below? Please explain.</p> <ol style="list-style-type: none"> <li>1. SCOMO</li> <li>2. DCMO</li> <li>3. BMO</li> <li>4. VirMO</li> <li>5. Management Policy MO</li> </ol>		
71	<p>Does the device support extensions to the OMA DM Management Information Bases (MIBs)? List those extensions in the response.</p>		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
72	If a device does not support management via an OMA-DM compliant manager, provide a brief description of how the device can be managed.		
73	For all devices list external power supply connection type(s). Provide a short description of the plug type (e.g. "120v AC", "micro USB"). For battery powered options, provide an estimate of the charging time from 10% to 100% charged.		
74	Do you supply embedded mobile VPN (MVPN) software on the device? If so, please provide a brief description of the software. Does the MVPN software operate in a Trusted Execution Environment?		
75	Is the device compatible with NetMotion's Locality software? Can this capability ship with device, or does it need to be installed by the customer?		
76	Does your product include an embedded LTE performance application? Please provide details of its capabilities if so.  Please note that NetMotion's Locality software is an example of LTE performance software.		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
77	<p>What operating system(s) does your device use/support? Does it support user installable applications? If so, please briefly describe the method for application installation.</p> <p>Please note that the Authority's member agencies currently use devices that operate on Apple's IOS, Google's Android, and likely other platforms.</p>		
78	<p>For each of the following applications (66.1 – 66.11), indicate the following:</p> <ol style="list-style-type: none"> <li>1. does the application come installed on your standard device,</li> <li>2. is it available for your device,</li> <li>3. can it be managed OTA by OMA-DM 1.2v device manager (and if yes, describe the DM objects required to manage the client),</li> <li>4. if the application can operate in the Trusted Execution Environment, and</li> <li>5. briefly describe the application.</li> </ol>		
78.1	A push-to-talk client		
78.2	Location Based Service (LBS) applications (e.g., PulsePoint, as well as fleet tracking applications). Please provide list of applications included/supported.		
78.3	Weather		
78.4	Internet Browser		
78.5	Circuit switched voice		
78.6	VoIP application (SIP based or VoLTE based)		
78.7	Messaging (SMS and MMS)		
78.8	CMAS client for broadcast messaging		
78.9	Email client		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
78.10	Additional client software that comes "standard" on the device (provide a list of the applications in the response)		
78.11	Additional client software available from you that can be pre-loaded on the device (provide a list of the applications in the response)		
79	Is the device capable of downloading user apps from standard websites such as APCO's "AppComm" into either the trusted or un-trusted execution environment? Please describe in your response the available sources for applications for this device.		
80	<p>Does the device provide a hardware root of trust, trusted boot, and attestation that interoperates with the infrastructure to support remote assessment of integrity and compliance status (i.e., trust measurement and reporting (TIMA)).</p> <p>There exist many Trusted Execution Environment (TEE) implementations. List industry standards your solution complies with.</p> <p>Note, GPD/STIP Specification v2.3 Test Plan is an example of an industry standard.</p>	<b>Mandatory</b>	

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
81	<p>Is the device compliant with the current version of the CJIS security requirements? Please describe the details regarding any requirements where your solution does not comply and describe all native and third party software solutions necessary to achieve this level of compliance (e.g., uses third party MVPN software).</p>		
82	<p>Does the UE support Advanced Authentication (AA)?</p> <p>CJIS security policies require the use of AA after September 30, 2014. The Authority is interested in vendors' inputs on AA and CJIS compliance.</p> <p>AA provides for two-factor authentication. Authentication of login ID and password, such as: biometric systems, user-based public key infrastructure (PKI), smart cards (PIV), software tokens, and hardware tokens.</p> <p>AA technologies are described in various NIST SPs. NIST SP 800-157 is an example of such a reference.</p>		
83	<p>What FIPS 140-2 security class does your device meet (level 1 or level 2)? Please describe if your device directly meets this requirement or it requires third party solutions and what those solutions are.</p>		

<b>DEVICE QUESTIONS</b>			
	<b>QUESTION</b>	<b>COMPLY? (Yes/No)</b>	<b>RESPONSE</b>
84	Is the device, including the chipsets of current manufacture (i.e., the vendor is currently manufacturing the product)? Will it be in current manufacture on 8/15/2015?	<b>Mandatory</b>	
85	Does the Respondent have a planned date for discontinuing the manufacture and sale of the device and its chipsets? If so, what is the date for which the device and its major components will be discontinued from manufacture? If not, please provide the guaranteed duration of manufacture of the device (e.g., no less than five years from 8/15/2015).		
86	Does the vendor have a planned date for discontinuance of support (software updates, repairs)? If so, what is the date for which the device will no longer be supported? If not, please provide the guaranteed duration of support of the device (e.g., no less than seven years from 8/15/2015).		



**LIST OF AGENCIES**

The Authority would like to share the information derived from the RFI Responses agencies that include, but are not limited to, the following agencies below, provided that Respondent consent is granted in RFI Exhibit A, Question 9.01.

	<b>Agency Name</b>
1.	First Responders Network Authority (FirstNet)
2.	Adams County
3.	New Jersey
4.	New Mexico
5.	State of Texas
6.	Harris County
7.	California First Responder Network (CalFRN)

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- 7.1.9 Prior to operational deployment on the PSBN, UEs will have passed FirstNet required Interoperability Testing (e.g., using a subset of applicable test cases from the Cellular Telephone Industry Association (CTIA) Interoperability Testing (IOT) and Universal Integrated Circuit Card (UICC) functional test cases, vendor IOT or similar commercial LTE industry practice) if such test plans are available at Phase 1 NTP.
- 7.1.10 Prior to operational deployment on the PSBN, UEs will have passed FirstNet-required UICC functional testing if such test plans are available at Phase 1 NTP.

## **7.2 Vehicular Routers**

- 7.2.1 The Contractor will provide 1,000 vehicular routers User Equipment with the following requirements:
- 7.2.2 The Contractor will provide a multi-radio mobile router that meets minimum UE Performance Criteria required to satisfy all coverage and KPI requirements in this Exhibit B (PSBN Specifications).
- 7.2.3 The User Equipment will be capable of IPv6 and backward compatible with IPv4.
- 7.2.4 The router will be over the air upgradable/configurable and provide web based configuration, status and troubleshooting access.
- 7.2.5 The router will be fully compliant with Release 9 of the 3GPP specifications and backward compatible with Release 8. The Contractor will indicate any Release 8 or 9 specifications that are not supported by the proposed hardware.
- 7.2.6 The vehicular router will include slots for at least two modems, one that provides LTE connectivity to the PSBN and is provided by the Contractor, and another modem that provides connectivity to one of the 3G or LTE commercial carriers, provided by the Authority. The slots will use standard, field serviceable slots (e.g., PC Express) installed by trained personnel. The router will allow secure and seamless switching between the two modems to select the best available network. The router will have configuration settings to determine the point at which a switch occurs.
- 7.2.7 The router will include a GPS receiver and the capability to autonomously report location to a centralized server or be polled by a centralized server and using

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standards based location reports or methods compatible with Member agency Computer Aided Dispatch systems.

- 7.2.8 The router will support Downlink MIMO 2x2 configuration.
- 7.2.9 The router will transmit 200 mW maximum output power per 3GPP TS 36.101 power class 3 in the public safety band and will support at least 16QAM modulation scheme in the uplink.
- 7.2.10 The router will have an RJ-45 Ethernet interface and support connectivity to client computers.
- 7.2.11 The router shall serve as an 802.11 b/g/n access point with WPA2 security capabilities. Wi-Fi will have a web based configuration interface and will enable modification of all settings (SSID, security and encryption parameters, etc.).
- 7.2.12 The router will be ruggedized. The Contractor will provide test data attesting the device meets MIL SPEC 810G specifications.
- 7.2.13 The router will run on standard vehicle 12VDC power and will automatically power-up on ignition and will be configurable for automatic shutdown when ignition is turned off.
- 7.2.14 The router dimension will not exceed 10 (L) x 8.0 (W) x 2 (H) in and it will not weigh more than 6 pounds.
- 7.2.15 The router shall have a standard RF connector port to allow a detachable antenna or RF cable for roof-mounted vehicular installations.
- 7.2.16 The router will provide link/connectivity status indicators.
- 7.2.17 The router will include a roof penetrating antenna capable of supporting all bands supported by the UE, RF cable (for connection to the UE), integrated GPS antenna and power cable. These elements must be included in the single unit pricing for each rugged router.
- 7.2.18 The router will also include the following interfaces:

- 7.2.18.1 RJ45 Ethernet port
- 7.2.18.2 USB 2.0 of higher
- 7.2.18.3 Antenna Connectors for RF cable and GPS antenna
- 7.2.19 The router will be configured by a USB or RJ45 cable connected computer via a web based interface.
- 7.2.20 The router will support common Connection Manager (CM) framework that use the following open standards:
  - 7.2.21 Mobile Broadband Interface Model (MBIM);
  - 7.2.22 Secure On Device API (SODA);
  - 7.2.23 OMA Open Connection Manager API (Open CMAPI); and
  - 7.2.24 Pricing for the router will be inclusive of packaging, shipping and handling.

<b>TABLE I-1</b>		
<b>Section No.</b>	<b>Performance Criteria</b>	<b>Price</b>
21.4.2	Server License, [REDACTED]	[REDACTED]
21.4.3	[REDACTED]	[REDACTED]
Volume discounts may apply based on quantity purchased.		
<b>21.5</b>	<b>Disposal of Antenna Structures</b>	<b>Unit Prices included for configurations</b>
21.5.1	[REDACTED] based on the assumptions below.	[REDACTED]
21.5.2	[REDACTED] based on the assumptions below.	[REDACTED]
21.5.3	Assumptions:	
21.5.3.1	All antenna and mounts will be [REDACTED]	
21.5.3.2	[REDACTED]	
21.5.3.3	[REDACTED]	
21.5.3.4	[REDACTED]	
21.5.3.5	Salvage value for steel will be returned to the authority	
21.5.3.6	[REDACTED]	
21.5.3.7	Price includes [REDACTED]	
21.5.3.8	Price includes [REDACTED]	
21.5.3.9	Price is [REDACTED] Additional pricing will be provided on site specific basis	
<b>21.6</b>	<b>Site Development Price Schedule</b>	<b>Pricing provided in a separate table</b>
21.6.1	A complete list of unit pricing for all site development activities and elements has been included as additional table in this Exhibit C.11 (Contractor's Response to Appendix I) worksheet.	
<b>21.7</b>	<b>InterOperability Testing (IOT) - Devices</b>	
21.7.1	Pricing to satisfy Exhibit B - Section 1.10.1 - The PSBN and User Equipment will deliver intra-system (single Public Safety PLMN ID) and nationwide inter-system roaming, interoperability and compatibility.	Refer to detailed description in this Exhibit C.11 (Contractor's Response to Appendix I), Table I.1: Narrative 21.7 for the scope included in the prices below.
21.7.2	LTE Band Class14 Device IOT Testing Fees per Device This testing requires Motorola BC14 Laboratory and 3GPP release tested infrastructure products, test equipment and tools. Motorola will provide engineering, technical, test and project management support. The test duration will be a maximum of 4 weeks. Additional support beyond 4 weeks will be charged according to labor rates.	[REDACTED]
21.7.3	Email, conference call and phone support for debugging or regression testing of issues discovered during IOT will be charged at this rate. This support will be available Monday to Friday 9am to 5pm CST within 45 days of initial IOT.	[REDACTED]
21.7.4	IOT Validation of the <u>optional</u> MSI PTT Application per handheld device.	[REDACTED]
<b>21.8</b>	<b>InterOperability Testing (IOT) - Infrastructure</b>	
21.8.1	Pricing to satisfy Exhibit B Section 2.1.20 - In the event that secondary core uses PCRF and/or HSS Components from a different vendor, the Contractor will provide a quotation for IOT services to work with the other vendor to develop and implement a solution to integrate the other vendor's components and the Authority's data into the other vendor's system using industry standard solutions such as SPR (Subscriber Profile Repository, as defined by 3GPP TS23.203) User Data Repository (UDR), the Ud interface (3GPP TS 29.335), and LDAP (Lightweight Directory Access Protocol, as specified by the Internal Engineering Task Force).	Refer to detailed description in this Exhibit C.11 (Contractor's Response to Appendix I), Table I.1: Narrative 21.8 for the scope included in the prices below.

TABLE I-1		
Section No.	Performance Criteria	Price
21.8.2	Fees for testing an S6a interface for an HSS from another vendor interoperating with the balance of an EPC provided by Motorola. The fees include: - MSI LTE Lab Service - Interface Service - Lab to lab connection - MSI Project Management	██████████
21.8.3	Fees for testing a Gx interface for a PCRF from another vendor interoperating with the balance of an EPC provided by Motorola. The fees include: - MSI LTE Lab Service - Interface Service - Lab to lab connection - MSI Project Management	██████████
21.8.4	Fees for testing both the S6a and Gx interfaces between an HSS and a PCRF from another vendor interoperating with the balance of an EPC provided by Motorola. The fees include: - MSI LTE Lab Service - Interface Service - Lab to lab connection - MSI Project Management	██████████
<b>21.9</b>	<b>Redundant SP415 Backhaul MPLS Router</b>	██████████
21.9.1	Pricing to provide redundant SP415 MPLS routers at all 232 sites.	This price includes the additional equipment and services to add an SP415 MPLS router at all 232 sites. At the 39 sites where the current cabinet design will not provide enough space to accommodate the additional SP415, the price to expand the cabinet to a dual bay configuration has been included.
21.9.2	Equipment Unit Pricing	
21.9.2.1	SP415 MPLS Router and Accessories	██████████
21.9.2.2	Cabinet Expansion	██████████
21.9.2.3	Services for alternate redundant SP415 configurations will be quoted according to the scope requested.	
<b>21.10</b>	<b>Maximum Permissible Exposure Measurements</b>	██████████
21.10.1	Pricing to perform measurements of Maximum Permissible Exposure levels on a per site basis.	This unit pricing is based on measurements being performed at a minimum of 20 sites.