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## INITIAL ENTERPRISE CHALLENGE: LOCATION BASED SERVICES

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POC: TIM MARTIN, INNOVATION CELL ASSESSMENT LEAD





## **INITIAL ENTERPRISE CHALLENGE: LOCATION BASED SERVICES**

### **DESCRIPTION OF NEED/PROBLEM**

The US Navy is seeking to expand the use of government-owned tablets and mobile phones to allow for processing and storage of Controlled Unclassified Information (CUI). Many sailor and civilian roles require secure, convenient access to manuals, government information, and applications that process data at the CUI level and above. Location services will provide the foundation for additional functionality to solve problems in a more cost effective manner. This effort aims to bring new location based services to the Navy Enterprise Network (NEN), where location services are not currently being utilized.

Commercially available technologies for remote administration, data at rest encryption, and remote data erasure combined with location based services can enable Navy civilians and sailors to use mobile devices in new and more effective ways while retaining a strong security posture. The initial focused deployment effort is currently expected to exist within the scope of one or more small indoor areas and include one larger outdoor area. That deployment is described more fully in the use case below, however extensibility into further environments will be evaluated as a positive feature, so EC responses are encouraged to address further use cases to exemplify additional valuable capabilities.

Potential solutions should clearly indicate which wireless radios (GPS, Cellular, WiFi, Bluetooth, RFID...) are necessary for location positioning and which radios are optional for systems to utilize when determining location. The solution responses should indicate their level of location precision and factors which may influence that precision.

The Navy also seeks information about how to securely perform location services. This may include preventing location spoofing or inhibiting information relayed from trusted devices. The ability to identify unauthorized devices within predetermined locations may be a valuable capability provided by location aware solutions.

The more functional capabilities which can be enabled and controlled with respect to utilizing apps, data, or network shares a potential solution can provide, the better that solution will be considered. Current NEN mobile devices are managed with the Good For Enterprise managed container system, and functional integration with that service will be considered a positive. Some future objectives under consideration are the addition of location awareness for laptops, or further extension of device to include Bring Your Own Device (BYOD) systems but current Navy policy holds this objective outside the scope of the current Enterprise Challenge.

The following are some of the requirements which have been identified for a potential LBS system.

1. System shall provide Location Service that produces end user device location data.
2. Shall integrate with the current NMCI approved “Good for Enterprise” MDM to manage and enforce policy system.
3. Shall take input from the system’s 802.11 wireless access point device infrastructure to determine location.
4. Shall operate on NMCI approved infrastructure platform hardware and operating systems.
5. Shall provide location data usable to update and enforce policy on end user devices.
6. May utilize location data from end user devices to supplement location and position information based on non-WiFi capabilities. (e.g. GPS, Cellular, Bluetooth, RFID)
7. Shall integrate with NMCI approved end user devices (specifically tablet and smartphone).
8. System shall integrate with existing 802.11 wireless access points that will be utilized to determine the location of end user devices by a Location Service.
9. May provide directional antennas to enhance location determination capabilities in targeted locations.
10. May provide additional 802.11 wireless access points / radios for greater data capacity and/or location determination capabilities.
11. May provide unauthorized device detection data to the system’s Location Service.
12. Shall be certifiable by applicable DoD certification bodies. (e.g. UC-APL for data service devices, ...)



## **IDENTIFIED REQUIREMENTS**

- Shall not reduce security posture in any way.
- Shall interoperate with existing Mobile Device Managers (MDMs): Good For Enterprise.
- NEN constraints: No Bluetooth radio usage due to policy.
- NEN constraints: Only Android/iOS/Windows systems supported.
- Geofence / Positioning standards are not established, a system objective may be to avoid vendor lock-in based on proprietary methods.

## **USE CASES**

In Navy-controlled premises, documentation is made accessible on end user devices, and related device functionality (such as camera, screenshot) is disabled. While not in Navy-controlled premises, documentation is not accessible on end user devices, and related device functionality (such as camera, screenshot) is enabled.

The first Navy-controlled premise for system testing is anticipated to include an outdoor pier area approximately 200m by 100m; and two separate indoor areas including a workshop approximately 10,000 sq. ft. (mostly open) which may or may not be contained within the outdoor pier area, and potentially a shipboard area approximately 1,000 sq. ft. (multiple undefined wireless impairments).

## **POLICY**

Location Services capabilities (infrastructure) will be influenced by RF policy within potential Navy deployment sites. Current policies and STIGs are under review for applicability. (More specific information may be provided at a later date.)

## **REFERENCES**

- Use of Commercial Wireless Devices, Services, and Technologies in the Department of Defense (DoD) Global Information Grid (GIG)  
<http://www.dtic.mil/whs/directives/corres/pdf/810002p.pdf>, 04/23/2007
- IASE, Good for Enterprise 8.x STIG - Version 1, Release 1  
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[http://iase.disa.mil/stigs/Documents/u\\_AirWatch\\_mdm\\_v1\\_release\\_memo.pdf](http://iase.disa.mil/stigs/Documents/u_AirWatch_mdm_v1_release_memo.pdf), 4/16/2014
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[http://iasecontent.disa.mil/stigs/zip/July2015/U\\_Microsoft\\_Windows\\_Phone\\_8-1\\_V1R2\\_STIG.zip](http://iasecontent.disa.mil/stigs/zip/July2015/U_Microsoft_Windows_Phone_8-1_V1R2_STIG.zip), 7/24/2015
- IASE, LG Android 5.0 ISCG Version 1, Release 2  
[http://iasecontent.disa.mil/stigs/zip/U\\_LG\\_Android\\_5-x\\_V1R2\\_ISCG.zip](http://iasecontent.disa.mil/stigs/zip/U_LG_Android_5-x_V1R2_ISCG.zip), 10/21/2015
- IASE, Mobile Device Connections  
[http://iasecontent.disa.mil/stigs/pdf/Mobility\\_Connections.pdf](http://iasecontent.disa.mil/stigs/pdf/Mobility_Connections.pdf), 8/4/2015
- IASE, Mobile Policy SRG - Version 1, Release 2  
[http://iasecontent.disa.mil/stigs/Documents/u\\_mobile\\_policy\\_v1r2\\_srg.zip](http://iasecontent.disa.mil/stigs/Documents/u_mobile_policy_v1r2_srg.zip) , 7/24/2013

### **SPECIAL RESPONSE INSTRUCTIONS**

Responses not to exceed 10 pages.

#### **TO RESPOND TO THIS ENTERPRISE CHALLENGE**

1. Download the **“Respond to an Enterprise Challenge” pdf form**, available on the Innovation Cell website
2. Complete the form then submit it via email to **PEOEISInnovationCell@navy.mil**