Statement of Work

LV03 – Personal Communication Device System

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1   Introduction

Veteran Affairs Eastern Colorado Health Care System (VA ECHCS), Denver, CO., wishes to purchase an expansion of the existing Personal Communication Devices (PCD) System. The system will include a mixture of hand-free voice activated PCD and touchscreen smartphone PCD for healthcare communication among ECHCS staff within the campus. This will expand and upgrade the existing Vocera system at the replacement hospital. The expansion will include the staff engagement software to manage clinical/non-clinical alarm and critical clinical notification.

This procurement includes all services, hardware, and software necessity for the expansion of Vocera system. In addition, ECHCS is interested in a four (4) year service maintainance agreement pricing.

2   General Conditions

2.1   General Operation

2.1.1   On-Site assembly and installation of items, and performance of services identified in this document will take place during normal business hours which are defined as: 0700 to 1600 (i.e.: 7:00am to 4:00pm Mountain Standard Time), Monday through Friday, and excluding Federal Holidays.

2.1.2   The Contractor will protect all finished spaces and surfaces at no additional cost to VA ECHCS. The Contractor will be responsible for paying for and repairing any damage or noted deficiencies to finished spaces and surfaces that occur as a result of the Contractor's (or associated sub-contractors) installation.

2.1.3   Prior to starting work, the Contractor and associated personnel (including subcontractors) will be required to attend a general contractor's site safety training program, and adhere to its Personal Protective Equipment (PPE) requirements (i.e. hard hat, steel toe boots, high visibility vest, safety glasses, gloves). The length of the training is approximately 2 hours. A minimum 10 hours OSHA Safety Training is required prior to taking the on-site safety training.

2.1.4   There are no dumpsters available for Contractor use. Contractor shall be responsible for removal of all trash generated from installation.

2.1.5   The Contractor shall provide at least two copiers of User and service manual for network hardware. Electronic copy is acceptable.

3   Professional Services to include Installation, Project Management and On-Site Support (Line Item 0009)

3.1   Technical Requirements

3.1.1   PCD System Overall System Requirements and Intent

Overview: the ECHCS replacement facility has 28 beds ICU, 60 beds Low-acuity care (Medsurg), 30 beds Spinal Cord injury, 30 beds Mental Health without patient monitors, 49 PACU/Pre-op, and 12 Emergency bays, 7 Dialysis bays, 7 operation rooms, 6 GI procedure rooms. Expand and upgrade the existing Vocera system to include capability for communication with smart PCD, staff engagement software to manage clinical/non-clinical alarm and critical clinical notification.

3.1.1.1   Contractor shall migrate and upgrade all existing servers (2 Application, 1 Client gateway, 1 SIP gateway, 1 Report, and 1 Staging) to new ECHCS virtual machine (vm) server environment. See Attachment B for High Level Network Diagram.

3.1.1.2   In addition to 100 existing concurrence user licenses, Contractor shall provide an addition of 400 concurrence voice user licenses and 350 messaging license. User account is unlimited. **(Line Item 0001)**

3.1.1.3   All existing Vocera Communication Solution features are remaining AS-IT with additional feature in section 3.1.1.5 through 3.1.1.10.

3.1.1.4   The Contractor shall provide "Staff Engage Integration Platform and Workflow"

3.1.1.4.1   The system shall receive alarm, alert, or messaging inputs from variety of clinical and non-clinical systems

3.1.1.4.2   Manages alarms, alerts and integrated secure instant messaging holistically for the hospital environment, where alarm management is tightly integrated with messaging.

3.1.1.4.3   The system shall integrate with the following system for alarm/alerts input to the Vocera system: Notifier Fire Alarm, Johnson Control Building Automation System (BAS), Rauland Response 5 Nursecall, Cooper-Atkins Temptrak Temperature monitoring, Philips Intellivue Patient Monitor, VISTA/CPRS Lab Stat and Bed Management (BMS).

3.1.1.4.4   Receiving devices of alarm/alert and text messaging will be ranging from: hands-free voice PCD, touchscreen smartphone PCD, VA emails, Turn-Key pager system, Spok/USAMobility pager, and VA cellular phone.

3.1.1.4.5   The capability to pull patient bed assignment from electronic medical record to the Staff Engagement module shall be available. If the system doesn't have the current approval to pull Patient bed assignment, contractor shall provide adequate resource to test and certify the integration through this procurement with ECHCS.

3.1.1.4.6   Simultaneously pull data from multiple clinical sources in section 3.1.1.4.5 above and apply advanced rules to determine the appropriate smart routing (ei: escalation and priority.

3.1.1.4.7   Provide clinical context the clinician who is receiving alarms/events to be better prepared to respond to the patient event.

3.1.1.4.8   Provide Multiple-Variable Advanced Rules Engine to determine the appropriate context to delivery with the alarm, and also determine who the best caregiver is to notify depending on availability or "presence" in addition to caregiver assignment and role.

3.1.1.4.9   Integrated secure messaging with automatic prioritization. Primary caregiver of the alarm/events shall has the capability to add one or more care team members to the alarm/alarm/alert "conversation".

3.1.1.4.10   Provide report and analytical tool for caregiver to analysis the alarm/events trending. Report shall be accessible through a mobile device such as Touchsreen smartphone PCD.

3.1.1.4.11   The report tool shall be customizable, pre-defined analytics database, sample reports, and data extraction to MS Office format.

3.1.1.4.12   Data metric shall measure both actionable activity from caregiver during real-time and comparison of historical data.

3.1.1.5   The expansion of Vocera Communication System shall include the capability to send Vocera message to the Touchscreen smartphone PCD. See section 3.1.3 for specification of smartphone PCD.

3.1.1.6   The system shall provide secure messaging to and from all PCD devices

3.1.1.6.1   Text messaging sending shall be capable to send using: smartphone PCD or web console application on an OIT PC.

3.1.1.6.2   Text message receiving method can be through badges PCD, smarthphone PCD, VA OIT issue smart cellular phone, or through web console.

3.1.1.6.3   Text messaging shall enforce end user password prior to reading the message.

3.1.1.6.4 VAMC requires text messaging license.

3.1.1.7 The systems shall have "push to talk" feature from all PCD devices

3.1.1.8 The system shall integrate with VA Active Directory with PIV (Personal Identification Verification) certification for user account log in.

3.1.1.9 The system shall integrate with VA OIT Cisco CallManager VoIP telephone system.

3.1.1.10 Vocera Hand-free voice activation PCD/Badge, JSN: U6018.A **(Line Item 0002)**

3.1.1.11 The hand-free voice activation PCD/badges equivalent to Vocera model B3000N

3.1.1.12 Contractor shall provide 2 swappable batteries per device.

3.1.1.13 Battery life expectancy at fully charge shall be 5 hours talk time and 60 hours standby.

3.1.1.14 Contractor provides a minimum of 3 years extended warranty.

3.1.1.15 The PCD shall be FIPS-140 compliance, using DHCP on the VA OIT Wi-Fi dual 2.4GHz and 5GHz.

3.1.1.16 The PCD shall have the ability to be worn on a lanyard or clipped onto the user's clothing.

3.1.1.17 The PCD shall have the illustrated halo light around the call button to indicate call status.

3.1.1.18 Integrated Acuostic Noices Reduction (ANR) is required to reduce background conversation and noise interference.

3.1.1.19 The PCD shall allow multi-user operation where the badge is not register to any individual account. Any end user can log into Vocera system using any badge.

3.1.1.20 The PCD shall sas high contrast OLED display on the front of the badge to facilitate ease od readability. The display shall include but not limited: signal strength, battery life, volume, and caller name.

3.1.1.21 The badges shall be capable of single push-button communication.

3.1.1.22 The PCD shall have a headphone jack in order to provide confidential conversations.

3.1.1.23 The PCD's case shall have anti-microbial material to inhibit the growth of bacteria, mold, and fungi.

3.1.2 Vocera Touchscreen Smartphone PCD, JSN: U6018.P **(Line Item 0005)**

3.1.2.1 Touchscreen smartphone PCD is equivalent to Zebra model MC40-HC

3.1.2.2 The PCD integrated with the Vocera Communication and Collaboration Solutions application, telephony ready.

3.1.2.3 Contractor shall provide 2 swappable batteries per device.

3.1.2.4 Battery life expectancy at fully charge shall be 6 hours talk time and 35 hours standby.

3.1.2.5 The PCD shall have the ability to utilize PSK as authentication.

3.1.2.6 The PCD system shall be utilizing Android UI framework or equivalent

3.1.2.7 The PCD shall have secure text messaging.

3.1.2.8 Application shall included but not limited to: Telephone directory and texting application.

3.1.2.9 Application shall has the capability to access the internet for clinician to access "Micromedex".

3.1.2.10 Camera features rear-facing High Resolution 8megapixel for barcode scanning and image capture.

3.1.2.11 The PCD audio via speakerphone, wireless or wireless headset

3.1.2.12 Notification method via LED screen, audio, and vibration.

3.1.2.13 Minimum of 3 years warranty

3.1.2.14 The PCD shall have Ingress Protection rating of a minimal IP54 for protection against dust and water.

3.1.2.15 FIPS-140 compliance, using DHCP on the VA OIT Wi-Fi dual 2.4GHz and 5GHz

3.1.2.16 Touchscreen display shall be at a minimal of 4.3" screen size.

3.1.3 Accessories:

3.1.3.1 U6018.B: Charger, 8-slots for U6018.A (Vocera PCD badges) **(Line Item 0003)**

3.1.3.2 U6018.C: Charger, 1-slot for U6018.A (Vocera PCD badges) **(Line Item 0004)**

3.1.3.3 U6018.P1: charger, 4-slots for U6018.P (smartphone PCD) **(Line Item 0006)**

3.1.3.4 U6019.P2: charger, 1-slot for (smartphone PCD) **(Line Item 0007)**

3.1.3.5 Break-away Lanyards for U6018.A badges **(Line Item 0008)**

3.1.3.6 Clip for U6018.A badges **(Line Item 0008)**

3.1.3.7 Wired headset for U6018.A badges **(Line Item 0008)**

3.1.3.8 Holster for U6018.P smartphone **(Line Item 0008)**

3.1.3.9 User Training Kit **(Line Item 0008)**

3.2 Project Management Requirements

3.2.1 Project Management Plan

The Contractor shall draft a Contractor Project Management Plan (CPMP) that lays out the Contractor's approach, timeline and tools to be used in execution of the contract. The PMP should take the form of both a narrative and graphic format that displays the schedule, milestones, risks and resource support. The CPMP shall include the contractor's plans for managing all subcontractors. Topic areas to be addressed shall include oversight and communications with subcontractors while onsite at VA locations, as well as executing the timely distribution and delivery of all materials to subcontractor personnel. The CPMP shall also include how the Contractor shall coordinate and execute planned, routine, and ad hoc data collection reporting requests as identified. The initial baseline CPMP shall be concurred upon and updated monthly thereafter. The Contractor shall update the VA Point of Contact (PoC) of the approved CPMP throughout the period of performance. CPMP shall be submitted after Phase I and Phase II.

The CPMP include but not limited to:

- Project Schedule to include Milestones, Deliverables, and Critical Path
- Verification & Validation (V&V) Plan
- Training Plan (System Administrator, Superuser and End UserTraining material)
- Risks Management Plan
- Operations & Maintenance Plan (See Section 4 for further Detail)
- Project Closeout Activities/Procedures

3.2.2 Reporting Requirements

The Contractor shall provide weekly progress reports, to include schedule updates, to the VA PoC and shall cover all work completed during the reporting period and work planned for the subsequent reporting period. The reports shall also identify any problems that arose and a description of how the problems were resolved. If problems have not been completely resolved, the Contractor shall provide an explanation. The Contractor shall monitor performance against the CPMP and report any deviations. It is expected that the Contractor will remain in communication with the VA PoC accordingly so that issues that arise are transparent to both parties to prevent escalation of outstanding issues.

The Contractor shall provide the PoC with Weekly Installation Progress Reports in electronic form in Microsoft Word, Project formats or PDF. The report shall include detailed instructions/explanations for each required data element, to ensure that data is accurate and consistent. These reports shall reflect data as of the last day of the preceding month. These reports shall include a summary of the task order deliverables.

Meeting minutes with action items will be sent out not later than than 5 days after each meeting throughout the duration of the project. Weekly status reports shall be submitted by COB on Friday each week during installation phase.

3.2.3 Verification and Validation Requirement (Testing)

3.2.3.1 The Contractor shall perform testing following installation to ensure access points and wireless service are functioning at a minimal data rate that is acceptable to the site as determined during the site survey/design and with signal to noise ratio and power settings that are acceptable to the site as determined during the site survey/design. Verification and validation testing shall be conducted at the end of phase III.

3.2.3.2 The Contractor shall discuss and confirm suggested speed test criteria in Testing Requirement 1 with the VA PoC.

3.2.3.3 The Contractor shall provide a Post-Installation Survey Heat Map, which will show where the access points are located and that they are functioning.

3.2.3.4 The Contractor shall survey the wifi signal to identify any deadspot winthin Buiding: IBN, IBS, DAT, CBN, CBC, and CON.

3.2.3.5 The Contractor shall provide a final test plan that includes updates addressing any comments provided by the VA to the draft test plan.

3.2.3.6 Test all systems integrations highlight in Section 3.1

3.2.3.7 Verify all clinical workflow communication to ensure alarm/alert and critical communication are send to the correct end user and group.

3.2.3.8 Post-Installation Technical Report documenting the initial configuration of the system at the completion of the installation shall be provided to ECHCS.

3.2.4 Project Estimate Time Line

3.2.4.1 Phase I:Workflow design. Expected Start Date: As soon as contract Award; date and time will be coordinated with the VA PoC at ECHCS.

3.2.4.1.1 Workshop for workflow design shall be conducted onsite with key clinical stakeholder for up to 4 hours

3.2.4.1.2 Contractor shall conduct a series of call flow design and messaging design session(s) and develop the clinical design specification by department. The design session(s) will consist of clinical call flow analysis to develop clinical roles, groups, forwarding, naming conventions, and permanent and temporary group parameters. Copy of Clinical Design specification describing the clinical group and department call flows, distribution lists and alert templates shall be provided to ECHCS as deliverable for this phase. VA Poc at ECHCS will ensure it meets VA requirements.

3.2.4.1.3 Contractor shall document, design and develop patient room groups as applicable for the Staff Assignment module, allowing end user association with room/group roles nested within the call flow design. The Vocera Staff Assignment application will be documented, designed, and developed by department.

3.2.4.1.4 Contractor shall develop and document the initial database and call flow requirements for a maximum of **800** users and up to **100** address book entries. The database may be comprised of the following elements:

- Sites (Global is default for single site installations)
- Groups
- Users
- Group Members
- Address Book Entries
- Access Points
- Locations
- Devices

3.2.4.2 Phase II: System Migration, Expected Start Date: Oct. 30, 2017 (Date is tentative and subject to change, contact PoC at ECHCS).

3.2.4.3 Phase III: Installation of all PDC devices, Expected Start Date: Nov. 13, 2017 (Date is tentative and subject to change, contact PoC at ECHCS).

3.2.4.4 Phase IV: System Go Live, Expected Start Date: Feb. 12, 2018 (Date is tentative and subject to change, contact PoC at ECHCS).

3.2.4.5 Phave V: Post-Assessment workflow GO-Live, Expected Start Date: Jun. 4, 2018 (Date is tentative and subject to change, contact PoC at ECHCS).

3.2.5 Training Plan

3.2.5.1 Contractor shall draft a training with ECHCS input. Training Plan shall be approved by ECHCS prior to all training session. Expected Start Date: Feb. 12, 2018 (Date is tentative and subject to change, contact PoC at ECHCS).

3.2.5.2 The contractor shall provide system administrator training to the VA ECHCS Biomedical Engineering staff. Training at the minimum will include first look troubleshooting, system reboot with the full understanding of the system network. End User training is expected to be around 600 staff. End user training shall be provided Monday through Friday 6am-10pm, and Saturday 7am-4pm.

3.2.6 On-Site Support **(Line Item 0009)**

3.2.6.1 Contractor shall provide an on-site support Monday-Friday 8am-5pm MT, for 12 months starting from when the system is accepted by the ECHCS.

3.2.6.2 All systems user license shall be supported 24/7, starting from when the system is accepted.

4 Operations & Maintenance

Contractor shall provide price for each option year, up to 4 years, of the Service Maintenance Contract. **(Line Items 1001, 2001, 3001, 4001).**

4.1.1 The Contractor shall provide 24/7 Call center support for both technical and application issue.

4.1.2 The Contractor shall provide software upgrade and updates as-needed.

4.1.3 If technical on-site support is required, Contractor shall provide ECHCS PoC with the estimate cost prior to dispatch on-site technical support.

4.1.4 Include: 500 Voice Licences and 350 text messaging licenses.

5 Deliverables

5.1.1 The offeror shall provide a completed VA Directive 6550, Appendix A with the quote to determine if the medical devices/systems offered can be safely connected and securely integrated with VA's clinical information technology systems and network.