Questions for Vendors

(Please limit your response to no more than 40 pages)

July 2, 2014

Definitions:

- Medical Appointment Scheduling System: an enterprise level system that will, at first, provide outpatient medical appointment scheduling capabilities
- COTS: refers to Commercial Off-The-Shelf (COTS) – proprietary or open-source – presentation layer applications, business rules, generic resource reporting.
- ESS: Enterprise Shared Services either currently deployed or planned in the VA environment.
- Business Rules Engine: A software component that allows non-programmers to add or change business logic (the sequence of operations associated with data) for a business rule that defines a business policy or procedure. The end users are able to change business rules without engaging developers.

Background

The Department of Veterans Affairs (VA) Office of Information & Technology (OI&T) is responsible for the development and maintenance of VA's Veterans Health Information Systems and Technology Architecture (VistA) Electronic Health Record (EHR). VistA is the electronic information service that enables clinical care delivery throughout the VA health system. VistA is central to the quality of care that VA delivers to Veterans. Designed by clinicians for clinicians, VistA embodies the clinical workflow processes that support VA's models of care and has enabled measurable improvements in quality of care.

VA is currently working on an evolution strategy to improve the Electronic Health Record capabilities within the VA. An essential component of future VistA solution is the Medical Appointment Scheduling System (MASS), via which VA performs multiple interrelated functions to bring patients, clinicians and other resources together so care can be delivered. The MASS also captures data which allows VA to measure, manage and improve access to care, quality of care, efficiency of care delivery and operating and capital resources.

The VHA Medical Appointment Scheduling System (MASS) project will replace the legacy outpatient scheduling system to provide more efficient access to care for Veterans. Outpatient scheduling is complex in that it requires coordination across medical practices while enforcing clinical delivery business rules. VistA Scheduling was built in the early 80's as an inpatient care scheduling system with few embedded clinical delivery business rules. Today's VHA care delivery is dramatically different from the past with the majority of appointments scheduled for outpatient care. Recent movements towards home healthcare, telehealth and Veteran self-scheduling has illuminated the limitations of VistA Scheduling. In FY2010 approximately 8.4 million of the 23.1 million living veterans in the nation were enrolled in the VA health care system. VHA's 50,000 users schedule over 85 million appointments a year for this Veteran population. Serving this volume requires state of the art capacity management tools and a solution that provides for efficient scheduling to meet Veteran demands.

VHA has developed the VHA MASS Business Blueprint Document to illustrate the operational complexity of the current state and present future state describing scheduling-essential capabilities. This is designed

as a reference document to capture - relevant future operational state medical scheduling information for a comprehensive upgrade of medical scheduling capabilities. VA has also developed strategic technical requirements and architectural concepts which will posted as an amendment to the RFI in the near future in preparation of the events identified.

Questions:

1. Considering the scale of VA outpatient medical scheduling (152 medical centers, 128 VistA instances, 50k users, 84m appts/year) VA anticipates a lengthy transition from the current VistA Scheduling system to the new solution. Please address the following:

    a. Discuss what you see as the **five top risks** to implementing a scheduling solution in the VHA environment. Please include your thoughts on how these risks can best be mitigated.

2. Discuss any possible roll out strategies based on a phased implementation approach (capability based, location based etc.). Please identify the pros and cons for a **roll out strategy** based on:
    a. VistA Instance: drive each VistA instance to transition entirely to the new system
    b. Capability: Sequence roll out of specific capabilities, such as requests, notifications, etc, before starting the next capability rollout
    c. Business workflow: roll out full capability set to all of primary care, then mental health, dental, telehealth, etc.

3. The high level VA architecture for an enterprise scheduling system is application (presentation layer) > business services layer (enterprise shared services) > access layer. VA desires a COTS application at the presentation layer.
    a. Architecture
        1. Please describe your solution architecture at a high level.
        2. Please describe where in your architecture your business rules engine is located.
        3. Describe how your approach would maximize flexibility for meeting VA unique requirements (configuring, extending or modifying the product to meet VA requirements).
    b. Please describe the data elements the scheduling application is required to access. Provide in the form of a Data Dictionary with Plain English explanations, if required.
    c. Reporting
        1. Describe your solution's approach to enterprise-level reporting for VA. What types of reports come as part of the solution?
        2. How are modifications to reports performed?

4. VA outpatient medical scheduling occurs at the local, facility level. With few exceptions, each facility is supported by its own VistA instance of software. This means that scheduling data is in the context of the VistA instance, not aggregated at the national-level and is tailored for local operations. For example, the list of providers and rooms is specific to a facility. Provide a summary of your corporate expertise, and work experience as it relates to the requirements of the similar health provider scheduling solutions. Please specifically expand upon architectures, implementation, etc., particularly in Government or large commercial industry settings. Please describe experiences and lessons learned with other implementations and deployment such as

migrating a customer from one electronic scheduling system to another electronic scheduling system. Specifically,

a. Discuss your team's experience/expertise in **deploying scheduling solutions** to very large and diverse enterprises.

b. Discuss your experience/expertise with **installing your proposed solution** into an enterprise where the data across instances was not fully standardized prior to the implementation of the new scheduling capability.

c. There are numerous non-scheduling VHA business processes that use scheduling data. For example, beneficiary travel needs information about the appointment-making to determine benefits. How would you **manage the transition to a new system** with data from the old system in place?

d. How would you propose maintaining daily scheduling in a hybrid (old/new) system?

e. VHA structure includes for example, Central Office, VISN, Health System, Facility, Service and Clinic. Describe how you would approach identification and enforcement of policy and business rules across the various levels of the organization. Describe how your recommended solution can help balance the needs for **enterprise standardization and the need for localized tailoring**.

5. The difference in time between when a Veteran wants an appointment and when the appointment takes place is a critical performance measure for VA. The future vision includes the ability to proactively manage resources in light of the demand for care.

   a. Discuss how you manage **throughput and resource management**? What predictive measures do you use? Discuss how your solution addresses 5 critical elements in use at VA: (1) appointment create date, (2) appointment desire date (provider vs Veteran), (3) appointment completed date, (4) pending future appointment date, (5) third next available?

   b. Discuss how your system produce and display **data to inform efficient use of resources**? How does the tool benefit VHA? Describe the relevant ROI drivers.

6. Transition to the new system and its eventual sustainment are considered to be significant cost drivers.

   a. Describe how **business rules** are established and modified in your system. Include recommendations for level of expertise/ position within the organization for maintenance of business rules. Discuss special training or skills required for this responsibility.

   b. Describe common roadblocks/friction points in obtaining **user "buy-in"** and the techniques used to obtain user "buy-in" for the changes that will be needed in the scheduling processes.

7. What are the recommended licensing strategies for your Enterprise solution?

a. Will your COTS require annual license, upgrade, and maintenance fees?
b. What are industry recommendations for user facing scheduling application and rules engine be hosted on VA premises or hosted at non-VA premises. How might a Scheduling solution/capability as a Service be deployed and costed?

8. VA is looking at the GWACS Alliant, T4 and GSA Schedule 70 as potential vehicles to use for this requirement. VA is interested in feedback from industry on the most advantageous vehicle in terms of scope and ordering period.

9. What is your experience integrating with existing enterprise applications/services.

    a. Discuss your experience integrating with existing, or deploying new business rules engines in, a federated IT environment and your experience deploying business rules using business modeling languages such as Business Process Model and Notation (BPMN).
        1. What have you seen work well?
        2. What have been the challenges you have faced in deploying and managing business rules infrastructure.
    b. Discuss your experience integrating scheduling features into 3rd party user interfaces/workflows.

10. Describe the extent to which scheduling functionality can be brought into clinical GUIs to optimize clinician workflows; Both for clinicians to schedule events, and for clinicians to understand the schedule of events.

11. Describe how your solution handles optimization for grouping multiple events (labs, clinical encounter, pharmacy pickups, phone calls, etc.) recommended from multiple clinicians or multiple clinical process guidelines into bundles that decrease burden on the healthcare system and patients. How does your solution support optimization of events with need/priority gradients around them to group events from a patient and a provider perspective? For example, if the clinical systems generate a list of activities such as BP check, lab draw, and counseling with different time frames to be accomplished by one provider, can your solution group recommended activities together into one or two recommended encounters?

12. Describe how your solution supports activity management as described in the VistA 4 Product Roadmap (available on OSEHRA site). Specifically, address how your solution would work with workflow and rules engines in the EHR to support care management and care plans.