



OSEHRA

Open Source Electronic Health Record Alliance

Open Source Technical Support and Working Group Services for VA VistA

**Prioritization Description Document
For VA Open Source Intake Candidates**



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1. Introduction

The purpose of this Prioritization Description Document (PDD) is to compile and document the analysis findings for the open source software intake candidates identified during the quarter. The three candidates to be reviewed in this document are:

- Appointment Postcard Notification Letter v4.0
- OpenInfobutton
- XU Digital Signature

This document incorporates findings from the Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis, and the Open Source Software and Product Selection Criteria analysis. The document then further expands the assessment with additional analysis across multiple areas. A high level business case is outlined for each intake candidate. Ultimately, this document serves to position the candidates for the VA intake assessment process.

This Prioritization Description Document includes multiple analysis elements for the intake candidates, including the following:

1. Provide a mapping and functional description of open source software features proposed for VA VistA intake as they correlate to defined VA VistA 4 Feature Sets (FS).
2. Elaborate how the alternatives for the same VistA feature set compare to one another.
3. Identify and size the scope of additional development required to meet VA requirements.
4. Provide supporting technical detail regarding supported and/or required/missing components (such as client and server operating systems, database managers, application program interfaces, etc.).
5. Provide recommendations regarding any required/missing components necessary for full operation of VA VistA that may be addressed through either open source or other channels.
6. Identify the level of maturity and supportability requirements associated with the intake of the respective open source code.
7. Identify any licensing implications affecting intake.
8. Identify risks (technical, operational, programmatic) for each open source alternative.
9. Identify proposed mitigation strategies for risks associated with VA VistA intake that may affect deployment at VAMCs nation-wide.

2. Approach

The approach to developing this PDD included four main steps:

1. Review, analyze, update, and incorporate the SWOT content for each candidate
2. Incorporate the Q1 Gap Analysis findings into the PDD as appropriate
3. Incorporate the Q1 Product Selection Criteria into the PDD as appropriate
4. Organize the analysis into a business case summary and sequence
 - Overview
 - Rationale / Summary of Business Case
 - Fit to Requirements / Benefits
 - Costs
 - Risks

Figure 1, below, depicts the overall approach to assess open source product candidates for VA VistA intake and integrate the various work products. As shown in the graphic, multiple deliverables converge to generate the Prioritization Description Document. The Product Selection Criteria will be iterated in conjunction with the Gap Analysis findings and other information gathered to screen for SWOT candidates with the most potential positive impact. The results of these analyses are supplemented with additional detail to generate this Prioritization Description Document.

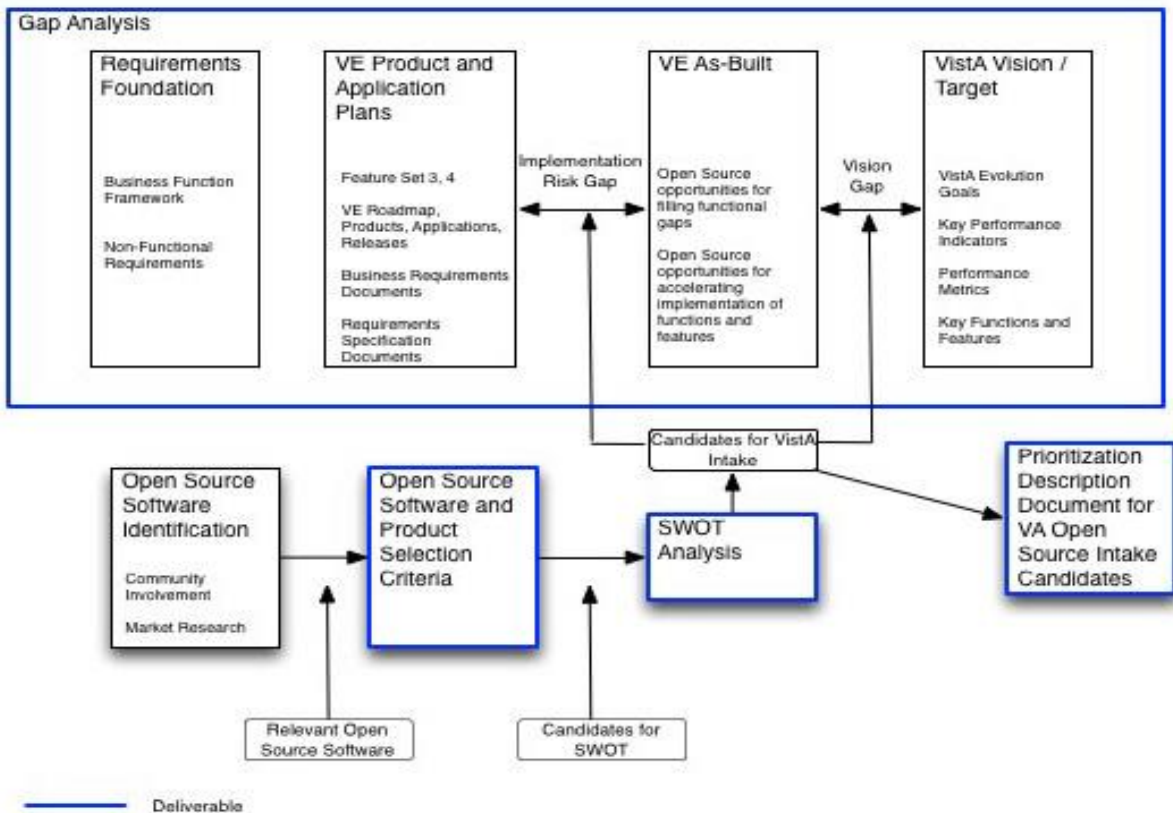


Figure 1. Analysis Approach

The Open Source Software and Product Selection Criteria package includes a scoring tool, the Selection Criteria and Scoring Tool, which is based on the selection criteria. Over the coming quarters, this tool will be used to evaluate and screen relevant open source software candidates for intake. Future PDDs will include new candidates and will mature to incorporate additional analysis content.

3. Analysis of Appointment Postcard Notification Letter v4.0

3.1. Overview and Rationale

An overview of the Appointment Postcard Notification Letter v4.0 open source candidate is presented in Table 1, below, along with a summary of the business case for this candidate and an assessment of available alternatives.

PDD Element	Appointment Postcard Notification Letter v4.0
Overview	
Overview of Open Source Intake Candidate	Enhances automatic notification functionality for upcoming scheduled patient visits.
Recommendation	
Recommendation	The recommendation resulting from the SWOT Analysis was to proceed for further analysis and potential intake.
Rationale	
Rationale / Summary of Business Case	The function provided supports a key gap area, maps to a Feature Set 3 requirement, and architecturally fits with VistA. This code is already along the road to deployment and is the least cost, lowest risk way to provide the postcard notification function.
Assessment of Alternatives	There are no other currently available alternatives that provide this functionality and have already been tested and used along with VistA at VA regional sites.

Table 1. Overview and Rationale

3.2. Fit to Requirements / Benefits

The Appointment Postcard Notification Letter v4.0 is evaluated based on the fit to requirements and benefits offered by the candidate in Table 2, below. A mapping to the VistA 4 Roadmap Feature Sets is provided, as well as an analysis of overall fit to the Roadmap.

PDD Element	Appointment Postcard Notification Letter v4.0
Fit to Requirements / Benefits	
Mapping to Feature Sets	This functionality supports scheduling enhancements, which is an identified Implementation Gap.
Functional Fit with Requirements	Enhances existing functionality - this type of notification feature is not currently available in VistA.
Technical / Architectural Fit with VistA	The code adds a new menu to the VistA system and follows convention for this type of change. Additional API interaction with VistA will require additional analysis.
Fit with Roadmap	This code performs an "edge" function, and does not impact core VistA so this should be able to be implemented quickly. Additional analysis is required to determine fit as implementation plans for the scheduling area are changing.
Business Benefits to VA	Enhances the Veteran experience by improving the user friendliness of the scheduling process. Full implementation will extend this benefit to all Veterans.

Table 2. Analysis of Fit to Requirements / Benefits

3.3. Costs

An overview of the costs associated with intake of the Appointment Postcard Notification Letter v4.0 is presented in Table 3, below. Specific elements addressed include a description of the size and scope of additional development that would be required prior to implementation.

PDD Element	Appointment Postcard Notification Letter v4.0
Costs	
Size and Scope of Any Additional Development	No additional development needed; code is already proven in regional deployment.
Supported and / or Required / Missing Components	None currently identified.
Recommendations for Required or Missing Components	Not applicable since there are no additional required or missing components.
Level of Maturity and Support Requirements	The code is considered “good quality” and can be used as-is with minimal support requirements.

Table 3. Analysis of Costs

3.4. Risks

The level of risk associated with intake of the Appointment Postcard Notification Letter v4.0 open source candidate is evaluated in Table 4, below. Technical, operational, and programmatic risks are evaluated.

PDD Element	Appointment Postcard Notification Letter v4.0
Risks	
Technical Risks	Minimal as implementation would not require architectural level integration with VistA.
Operational Risks	None currently identified.
Programmatic Risks	Limited risk - code would have to be rolled out to all sites in a planned, logical manner.
Licensing Implications and Code Quality	Certified to OSEHRA Level 2™. No copyright or licensing issues.
Mitigation Strategies	This code has already been proven in regional deployment; implementation risk is mitigated.

Table 4. Analysis of Risks

4. Analysis of OpenInfobutton

4.1. Overview and Rationale

An overview of the OpenInfobutton open source candidate is presented in Table 5, below, along with a summary of the business case for this candidate and an assessment of available alternatives.

PDD Element	OpenInfobutton
Overview	
Overview of Open Source Intake Candidate	Implements context-aware knowledge retrieval on demand from more than 30 online resources to aid in clinical decision support.
Recommendation	
Recommendation	The recommendation resulting from the SWOT Analysis was to proceed for further analysis and potential intake (if code is not already implemented within eHMP).
Rationale	
Rationale / Summary of Business Case	Code would provide a common mechanism for incorporating current peer-reviewed medical research and evidence into clinical decision-making. This code can be implemented with minimal risk and cost. OpenInfobutton was recently put before the Configuration Control Board (CCB), but the documentation was deemed insufficient for action and the item was sent back for more work.
Assessment of Alternatives	There are no other alternatives to provide this functionality that have already been tested by VA. The OpenInfobutton capability was first developed under the VA Innovation program called HMP – the precursor to eHMP.

Table 5. Overview and Rationale

4.2. Fit to Requirements / Benefits

The OpenInfoButton is evaluated based on the fit to requirements as well as benefits offered by the candidate in Table 6, below. A mapping to the VistA 4 Roadmap Feature Sets is provided, as well as an analysis of overall fit to the Roadmap.

PDD Element	OpenInfoButton
Fit to Requirements / Benefits	
Mapping to Feature Sets	This functionality supports interoperable electronic health record and broad eHMP deployment by integrating medical research into clinical decision-making.
Functional Fit with Requirements	Strong enhancement to existing functionality, provides rapid access to current medical research and evidence in support of clinical decision-making, as well as context sensitive help to aid in clinical decision-making. Patient history is included to provide better results. Included in the meaningful use criteria.
Technical / Architectural Fit with VistA	No impact on existing data architecture. Limited data interaction. Response back from query is displayed but not stored in VistA. Request and responder pair based on Java. Signs into National Library of Medicine (NLM), queries data for contextual clinical decision-making information. Developed by VHA - Innovations, University of Utah.
Fit with Roadmap	The Feature Set 3 eHMP category specifies CDS as a feature within eHMP. Also within Feature Set 3 eHMP is the requirement to certify to ONC 2014 Edition EHR Certification Criteria and Meaningful Use Objectives. The 2014 criteria require "linked referential clinical decision support" within its CDS paragraph (with the HL7 Context-Aware Retrieval Application (Info Button) referenced as an option to satisfy that criterion).
Business Benefits to VA	Allows broader healthcare expertise to be quickly applied to Veteran healthcare thereby improving care. Veteran experience impact will be indirect.

Table 6. Analysis of Fit to Requirements / Benefits

4.3. Costs

An overview of the costs associated with intake of the OpenInfobutton is presented in Table 7, below. Specific elements addressed include a description of the size and scope of additional development that would be required prior to implementation.

PDD Element	OpenInfobutton
Costs	
Size and Scope of Any Additional Development	This is a Java-based program, which would be easy to implement and quickly begin use. All components for implementation are part of the TRM.
Supported and / or Required / Missing Components	None currently identified.
Recommendations for Required or Missing Components	Not applicable - no additional required or missing components.
Level of Maturity and Support Requirements	Code is certified to OSEHRA Level 3™ and is highly reliable. Code can be used as-is with minimal support requirements.

Table 7. Analysis of Costs

4.4. Risks

The level of risk associated with intake of the OpenInfobutton open source candidate is evaluated in Table 8, below. Technical, operational, and programmatic risks are evaluated.

PDD Element	OpenInfobutton
Risks	
Technical Risks	Minimal as implementation would not require architectural level integration with VistA.
Operational Risks	None currently identified.
Programmatic Risks	Limited risk - code would have to be rolled out to all sites in a planned, logical manner.
Licensing Implications and Code Quality	No licensing issues - free and clear.
Mitigation Strategies	This code adds functionality that is not available. This code operates on the architectural edge and has minimal technical implementation risk. These factors mitigate risk; no additional mitigation strategies are required.

Table 8. Analysis of Risks

5. Analysis of XU Digital Signature

5.1. Overview and Rationale

An overview of the XU Digital Signature open source candidate is presented in Table 9, below, along with a summary of the business case for this candidate and an assessment of available alternatives.

PDD Element	XU Digital Signature
Overview	
Overview of Open Source Intake Candidate	Consists of three files providing the interface between Delphi executables and the built-in Windows security functions released under the Apache 2.0 license.
Recommendation	
Recommendation	The recommendation resulting from the SWOT Analysis was to consider the trade-off of eliminating the potentially minimal copyright risk with the VA resources required to implement these files which provide no new functionality.
Rationale	
Rationale / Summary of Business Case	Code would replace incompatible licensed source codes within CPRS with the Apache 2.0 licensed version. Purpose of adoption would be to eliminate (potentially minimal) copyright risk. No functional gain.
Assessment of Alternatives	This code is specific for this function and appropriately licensed. There are no other alternatives that resolve the licensing issue for this code.

Table 9. Overview and Rationale

5.2. Fit to Requirements / Benefits

The XU Digital Signature is evaluated based on the fit to requirements as well as benefits offered by the candidate in Table 10, below. A mapping to the VistA 4 Roadmap Feature Sets is provided, as well as an analysis of overall fit to the Roadmap.

PDD Element	XU Digital Signature
Fit to Requirements / Benefits	
Mapping to Feature Sets	Does not map to a Feature Set 3 element.
Functional Fit with Requirements	The existing functionality under Mozilla Public License version 1.1 is currently in use by VA. The OSEHRA Certified version, which is released under the Apache 2.0 license, duplicates the previous functionality.
Technical / Architectural Fit with VistA	The APIs are similar. The CPRS calls are the same as those currently in use and original files. There is minimal interaction into the VistA data structures. No changes required, therefore, a good technical fit.
Fit with Roadmap	Poor fit in that updates to these functions would require updates to the code. Should CPRS be replaced, the code would no longer be useful.
Business Benefits to VA	Time-to-value is high; however, the magnitude of the value is relatively low, since the purpose of adoption would be to simply eliminate a potential copyright risk. This is the only business value.

Table 10. Analysis of Fit to Requirements / Benefits

5.3. Costs

An overview of the costs associated with intake of the XU Digital Signature is presented in Table 11, below. Specific elements addressed include a description of the size and scope of additional development that would be required prior to implementation.

PDD Element	XU Digital Signature
Costs	
Size and Scope of Any Additional Development	No additional development needed; this code as a replacement provides the function.
Supported and / or Required / Missing Components	None currently identified.
Recommendations for Required or Missing Components	Not applicable since there are no additional required or missing components.
Level of Maturity and Support Requirements	The code is certified to OSEHRA Level 4™ - highly reliable.

Table 11. Analysis of Costs

5.4. Risks

The level of risk associated with intake of the XU Digital Signature open source candidate is evaluated in Table 12, below. Technical, operational, and programmatic risks are evaluated.

PDD Element	XU Digital Signature
Risks	
Technical Risks	Minimal as implementation would not require architectural level integration with VistA.
Operational Risks	None currently identified.
Programmatic Risks	Limited risk - code would have to be rolled out to all sites in a planned, logical manner.
Licensing Implications and Code Quality	The Apache 2.0 License files are free and clear with copyright to OSEHRA, but have a very permissive license allowing VA to utilize the files as deemed necessary. OSEHRA created the Apache files since Mozilla licensed files could not be distributed as part of OSEHRA repositories. This is an opportunity to eliminate current licensing issues.
Mitigation Strategies	This is a code swap to clear licensing. No new functionality is provided. Risk is minimal so no mitigation strategies required.

Table 12. Analysis of Risks

6. Next Steps

The results of the SWOT Analysis, Gap Analysis, Open Source Software and Product Selection Criteria, and Prioritization Description Document for each identified open source intake candidate will be combined into the quarterly CBA package. The next quarterly cycle will be initiated to search for and assess open source candidates, align the candidates with an updated Gap Analysis, and continue to mature the analysis approach and content.

Appendix A: Cross Reference of PDD Analysis Elements to the Statement of Work

PDD Element	SOW Cross Reference - Section 5.2.1, Page 37
Overview	
Overview of Open Source Intake Candidate	Additional analysis.
Rationale	
Rationale / Summary of Business Case	Additional analysis.
Assessment of Alternatives	PDD Item 2: Elaborate how the alternatives for the same VistA feature set compare to one another.
Fit to Requirements / Benefits	
Mapping to Feature Sets	PDD item 1: Provide a mapping and functional description of open source software features proposed for VA VistA intake as they correlate to defined VA VistA 4 Feature Sets.
Functional Fit with Requirements	Additional analysis.
Technical / Architectural Fit with VistA	Additional analysis.
Fit with Roadmap	Additional analysis.
Business Benefits to VA	Additional analysis.
Costs	
Size and Scope of Any Additional Development	PDD Item 3: Identify and size the scope of additional development required to meet VA requirements.
Supported and / or Required / Missing Components	PDD Item 4: Provide supporting technical detail regarding supported and/or required/missing components (such as client and server operating systems, database managers, application program interfaces, etc.).
Recommendations for Required or Missing Components	PDD Item 5: Provide recommendations regarding any required/missing components necessary for full operation of VA VistA that may be addressed through either open source or other channels.
Level of Maturity and Support Requirements	PDD Item 6: Identify the level of maturity and supportability requirements associated with the intake of the respective open source code.

PDD Element	SOW Cross Reference - Section 5.2.1, Page 37
Risks	
Technical Risks	PDD Item 8: Identify risks (technical, operational, programmatic) for each open source alternative.
Operational Risks	PDD Item 8: Identify risks (technical, operational, programmatic) for each open source alternative.
Programmatic Risks	PDD Item 8: Identify risks (technical, operational, programmatic) for each open source alternative.
Licensing Implications and Code Quality	PDD Item 7: Identify any licensing implications affecting intake.
Mitigation Strategies	PDD Item 9: Identify proposed mitigation strategies for risks associated with VA VistA intake that may affect national deployment at VAMCs nation-wide.

Table 13. Cross Reference to Statement of Work