3005_Exam Management (Exam Mgmt) Architecture

Documentation Status	Final - updated for 10/20/25 submission
Review Date	Reviewed March 7, 2025
BIP Tenant Boundary	Exam Management
BIP Tenant Component	exam-mgmt
System Acronym	Exam Mgmt
VASI ID and Link	Exam Management (Exam Mgmt) - #3005
BIP Tenant App(s)	Enhanced History and Shared Services and Library: • bip-exam-mgmt • bip-exam-mgmt-ui Message Processing: • bip-message-workflow Document Processor (sending eFolder docs to exam Vendors): • bip-exam-document-processor Exam Standard Data Service (generates standardized language): • bip-exam-standard-data • bip-exam-standard-data-ui Vendor Reporting Service: • bip-vendor-reporting-service • bip-exam-mgmt-vendor-reporting-ui
GitHub Link(s)	Enhanced History and Shared Services and Library: • bip-exam-mgmt • bip-exam-mgmt-ui • bip-exam-mgmt-config Message Processing: • bip-message-workflow Document Processor (sending eFolder docs to exam Vendors): • bip-exam-document-processor Exam Standard Data Service (generates standardized language): • bip-exam-standard-data • bip-exam-standard-data-ui Vendor Reporting Service: • bip-vendor-reporting-service • bip-exam-mgmt-vendor-reporting-ui
BIH Link(s)	Exam Management
MSR Links(s)	2404
Solution and support Links	• https://exam-mgmt-dev.dev.bip.va.gov/swagger-ui.html • https://exam-standard-data-dev.dev.bip.va.gov/swagger-ui.html
Sponsoring organization	VBA

Number of users	15,000-30,000
Estimated Monthly Cost	*>estimated monthly AWS / technical costs*
Privacy	PII Veteran and Claimant PII is processed and stored.
Will need 508 Compliance	No (not user-facing), with the following exceptions: • bip-exam-mgmt-ui: Yes • bip-exam-standard-data-ui: Yes • bip-exam-mgmt-vendor-reporting-ui: Yes
Deployment date	January 1, 2020
eMASS ID (System Name)	2053 (VBMS Exam Management)

Table of Contents

Introduction

Exam Management refers to an integration effort between VBMS, DAS, and VA exam providers to support the automation of exam requests and distribution of exam results. Exam providers connect their electronic medical systems to DAS, which then interfaces with VBMS to request exams, track and manage the status of exams, and receive exam results in support of claims processing. Results can then be used inside VBMS in a variety of ways, such as allowing users to view basic information, like the date an exam was completed, or to populate rating calculators used to determine Veteran eligibility.

See these child pages for supplemental details regarding specific Exam Management tenants:

- EP699 Automation Solution Document
- Exam Document Data Aggregator Architecture
- Exam Document Processor Architecture Document
- Exam Management (BIP Tenant Application) Architecture Document
- Exam Message Workflow Architecture Document
- Exam Standard Data Architecture Document
- Exam Vendor Reporting Portal (VRP) Architecture Document
- Exam Verification Agent Solution Document

More... Less...

Use Case View

Capability Viewpoint Vision (CV-1) (VASI Description)

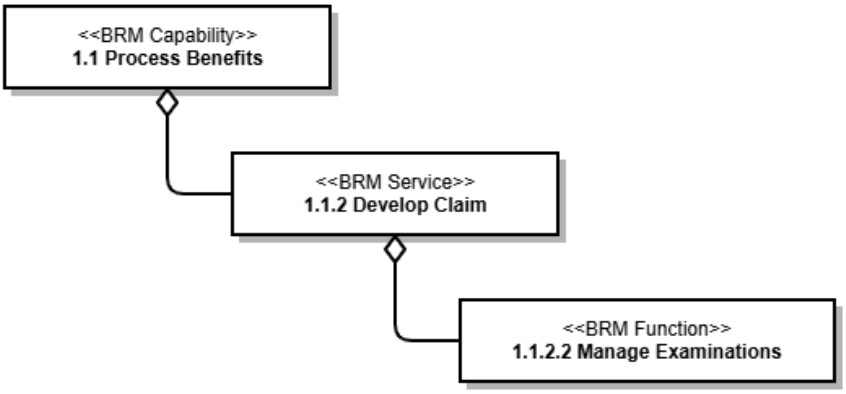
The BIP Exam Management applications reside on Benefits Integration Platform as a Service (BIP - #2295) and are under the Veterans Benefits Management System (VBMS - #1728) Product.
The BIP Exam Management applications provide integrations between VBMS and DAS (and DAS then integrates with VA exam providers) to support the automation of exam requests and distribution of exam results via APIs as well as visual display to VBMS UI users. Specific functions provided include: requesting exams, tracking and managing exam status, and receiving and recording exam results in support of claims processing.

Additional Info

Exam Management (EM) is a VBMS feature that is utilized by the VBMS claims users to request examinations of veterans and retrieve supporting artifacts to use in the ratings and awarding of a veteran's claim.
The functionality of the system includes:

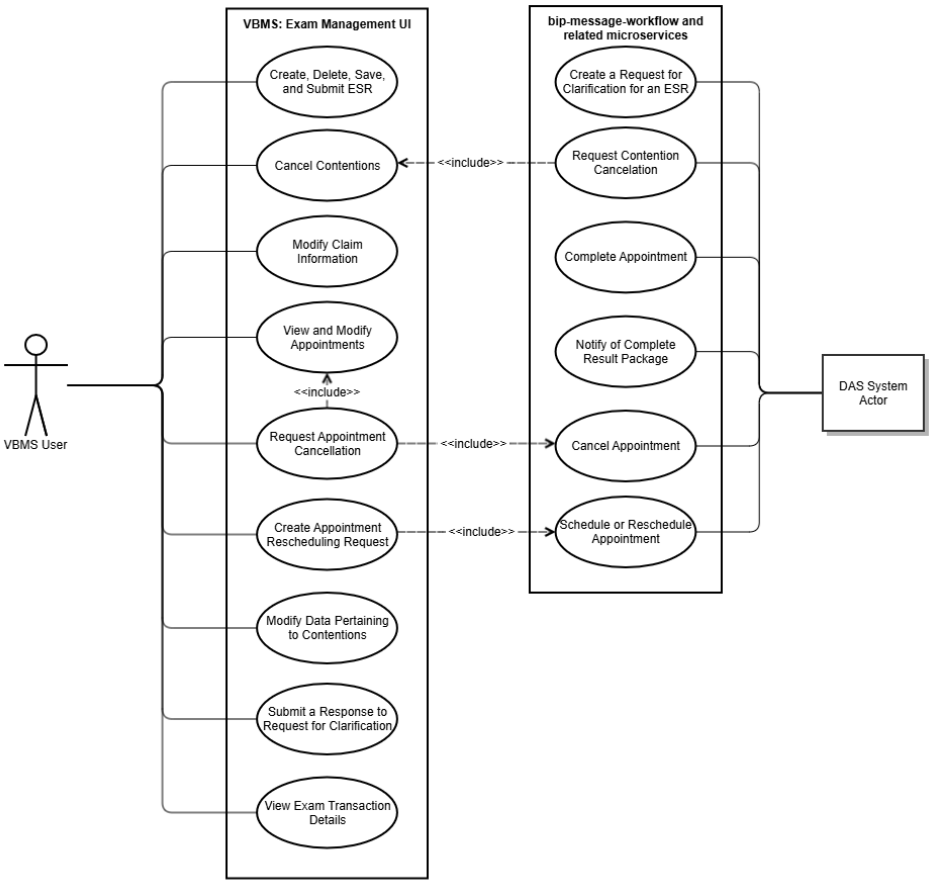
- Communicating with vendors to request examinations and receive information about examinations
- Tracking the status of an exam to allow the claim to proceed to the next step of the process
- Allow for communicating with the vendor to alter the exanimations if needed.
- Creating documentation for the veteran's eFolder to track the progress of the exam
- Associating completed DBQ (Disability Benefit Questionnaire) to the contentions and exams that requested the work

Capability Viewpoint Taxonomy (CV-2)



Use Cases

The Use Case View describes the primary functions Exam Management extends to its users.



Main Actors

Name	Description
VBMS User	Veteran Service Representative (VSR) or other user who processes claims.
DAS System Actor	DAS System calls are exchanged with Exam Vendors (VHA or VBA contractors).

System/Tenant/Application Description

The following table describes each system/tenant/application (rectangles) listed in the diagram above.

System Name	Description
VBMS : Exam Management UI	Veteran Benefits Management System.
bip-message-workflow and related microservices	Message workflow and related microservices that carry out the various functions

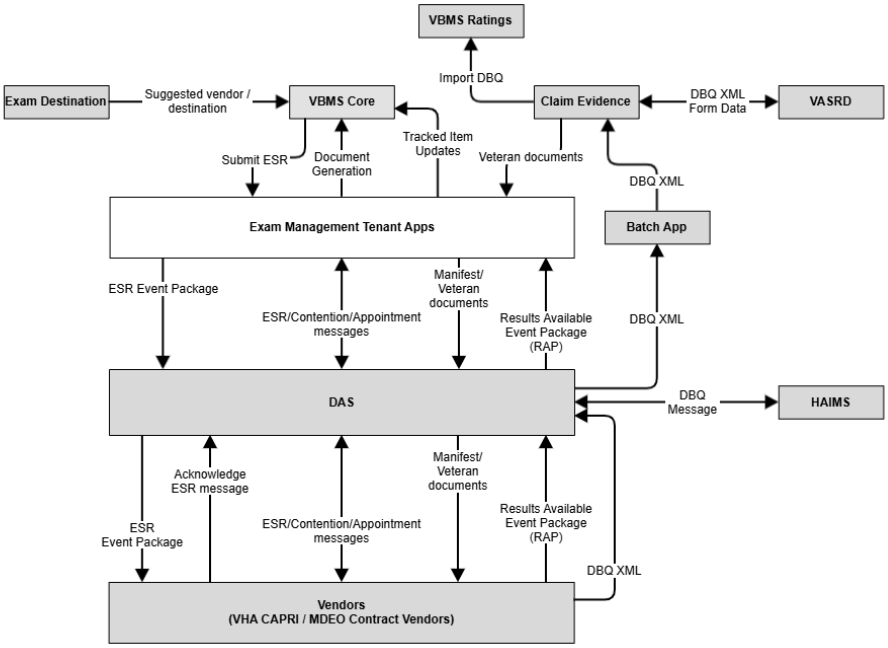
Main User Functions (Use Cases)

The following table describes each of the use cases (ovals) in the diagram above.

Actor(s)	System	Ability	Details
VBMS User	VBMS : Exam Management UI	Create, delete, save and submit ESR	As a VBMS User I need the ability to create, delete, save and submit Exam Schedule Requests in VBMS : Exam Management UI.
VBMS User	VBMS : Exam Management UI	Cancel Contentions	As a VBMS User I need the ability to cancel Contentions in VBMS : Exam Management UI.
VBMS User	VBMS : Exam Management UI	Modify claim information	As a VBMS User I need the ability to modify claim information in VBMS : Exam Management UI.
VBMS User	VBMS : Exam Management UI	View and modify appointments	As a VBMS User I need the ability to view and modify appointments in VBMS : Exam Management UI.
VBMS User	VBMS : Exam Management UI	Request appointment cancellation	As a VBMS User I need the ability to request that an appointment be canceled in VBMS : Exam Management UI.
VBMS User	VBMS : Exam Management UI	Create appointment rescheduling request	As a VBMS User I need the ability to request that an appointment be rescheduled in VBMS : Exam Management UI.
VBMS User	VBMS : Exam Management UI	Submit a response to a request for clarification	As a VBMS User I need the ability to respond to a request for clarification in VBMS : Exam Management UI.
VBMS User	VBMS : Exam Management UI	Modify data pertaining to contentions	As a VBMS User I need the ability to modify data as it pertains to contentions in VBMS : Exam Management UI.
VBMS User	VBMS : Exam Management UI	View Exam Transaction Details	As a VBMS User I need the ability to View Exam Transaction Details in VBMS : Exam Management UI via the Enhanced History.
DAS System Actor	bip-message-workflow and related microservices	Request Contention cancellation	The EMS needs the ability to request that a Contention be canceled.
DAS System Actor	bip-message-workflow and related microservices	Complete appointment	The EMS needs the ability to complete an appointment.
DAS System Actor	Exam Management System	Cancel appointment	The EMS needs the ability to cancel an appointment.
DAS System Actor	bip-message-workflow and related microservices	Schedule or Reschedule an appointment	The EMS needs the ability to schedule or reschedule an appointment.
DAS System Actor	bip-message-workflow and related microservices	Create a request for clarification for an ESR	The EMS needs the ability to create a request for clarification to be sent to VBMS for an Exam Schedule Request.
DAS System Actor	bip-message-workflow and related microservices	Notify of Complete Result Package	The EMS needs the ability to send a notification of Complete Result Package.

Primary Systems High Level Operational Viewpoint (OV-1)

The OV-1 Primary Systems High Level Operational Viewpoint describes the operational flow between the primary systems involved with fulfilling the functionalities of Exam Management.



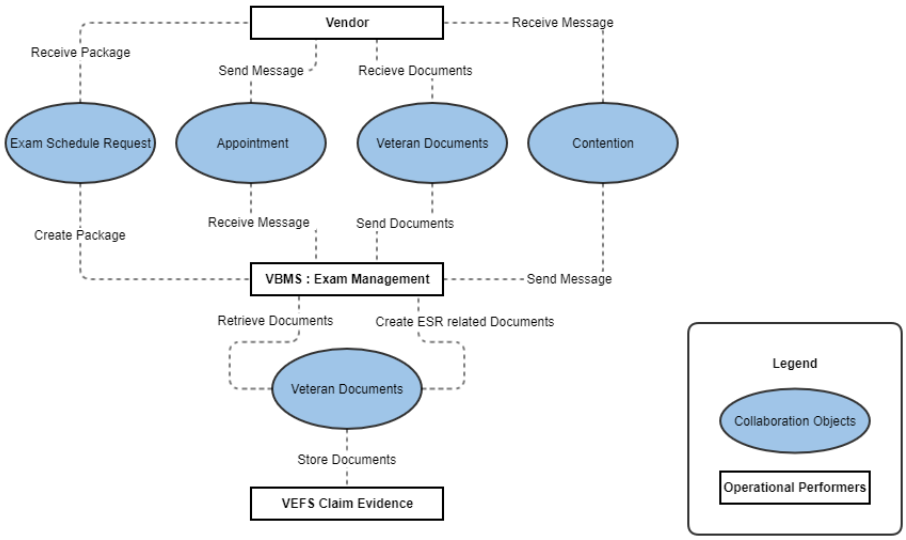
Legend
Gray Rectangle = External resource to resource being documented
White Rectangle = Internal resource to resource being documented

The table below describes the lines and arrows in the diagram above:

System A and VASI ID	System B and VASI ID	Interaction Description
Exam Destination #3032	VBMS Core #3356	Suggested vendor / destination
VBMS Core #3356	Exam Management #3005	Submit ESR
Exam Management #3005	VBMS Core #3356	Document Generation - Delegates to Core to leverage Narrative Context Wrappers and Correspondence.
Exam Management #3005	VBMS Core #3356	Tracked Item Updates - Updates Claim Suspense Data based on Tracked Item
Exam Management #3005	DAS #1979	ESR Event Package
Exam Management #3005	DAS #1979	Send and receive ESR/Contention/Appointment messages
Exam Management #3005	DAS #1979	Manifest / Veteran documents
DAS #1979	EMS	ESR Event Package
DAS #1979	EMS	Manifest / Veteran Documents
DAS #1979	HAIMS	DBQ Message
DAS #1979	Claim Evidence - eFolder #3023	DBQ XML
DAS #1979	Exam Management #3005	Results Available Event Package
EMS	DAS #1979	Acknowledge ESR message
EMS	DAS #1979	Send and receive ESR/Contention/Appointment messages
EMS	DAS #1979	Results Available Event Package
EMS	DAS #1979	DBQ XML
Claim Evidence - eFolder #3023	Exam Management #3005	Veteran documents

Claim Evidence - eFolder #3023	VASRD	DBQ XML Form Data
Claim Evidence - eFolder #3023	VBMS Ratings	Import DBQ

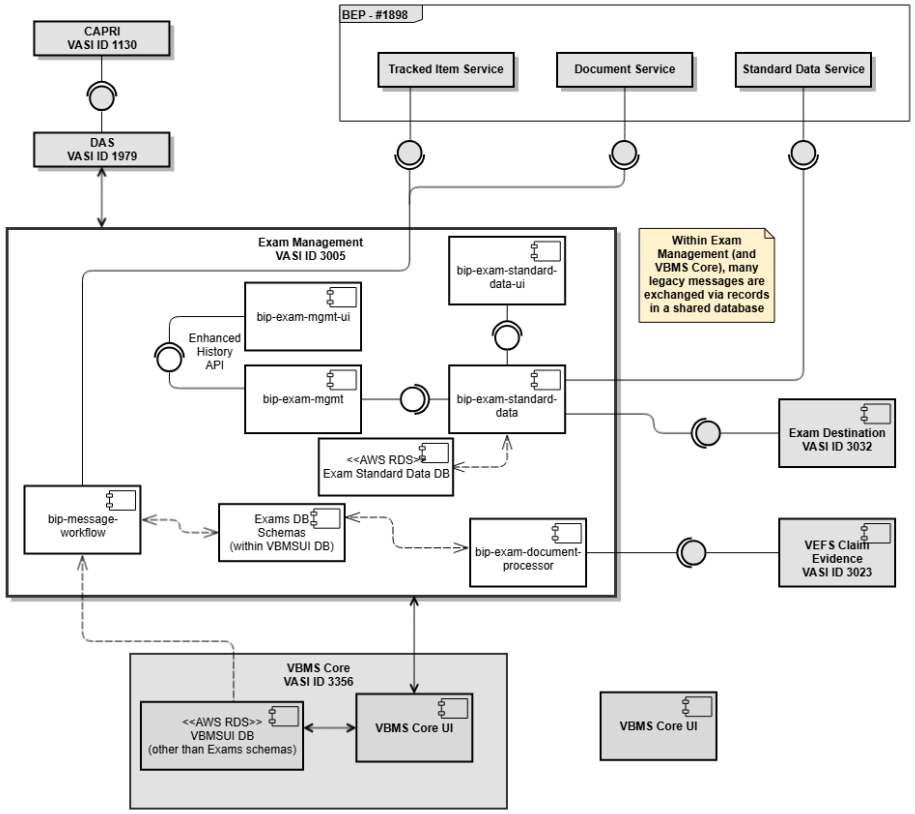
Operational Resource Flow (OV-2)



Logical View

Systems Interface Description (SV-1)

The SV-1: Systems Interface Description describes the types of interfaces between the primary systems and components involved with completing the functions of Exam Management.



Legend
Gray Rectangle = External resource to resource being documented
White Rectangle = Internal resource to resource being documented

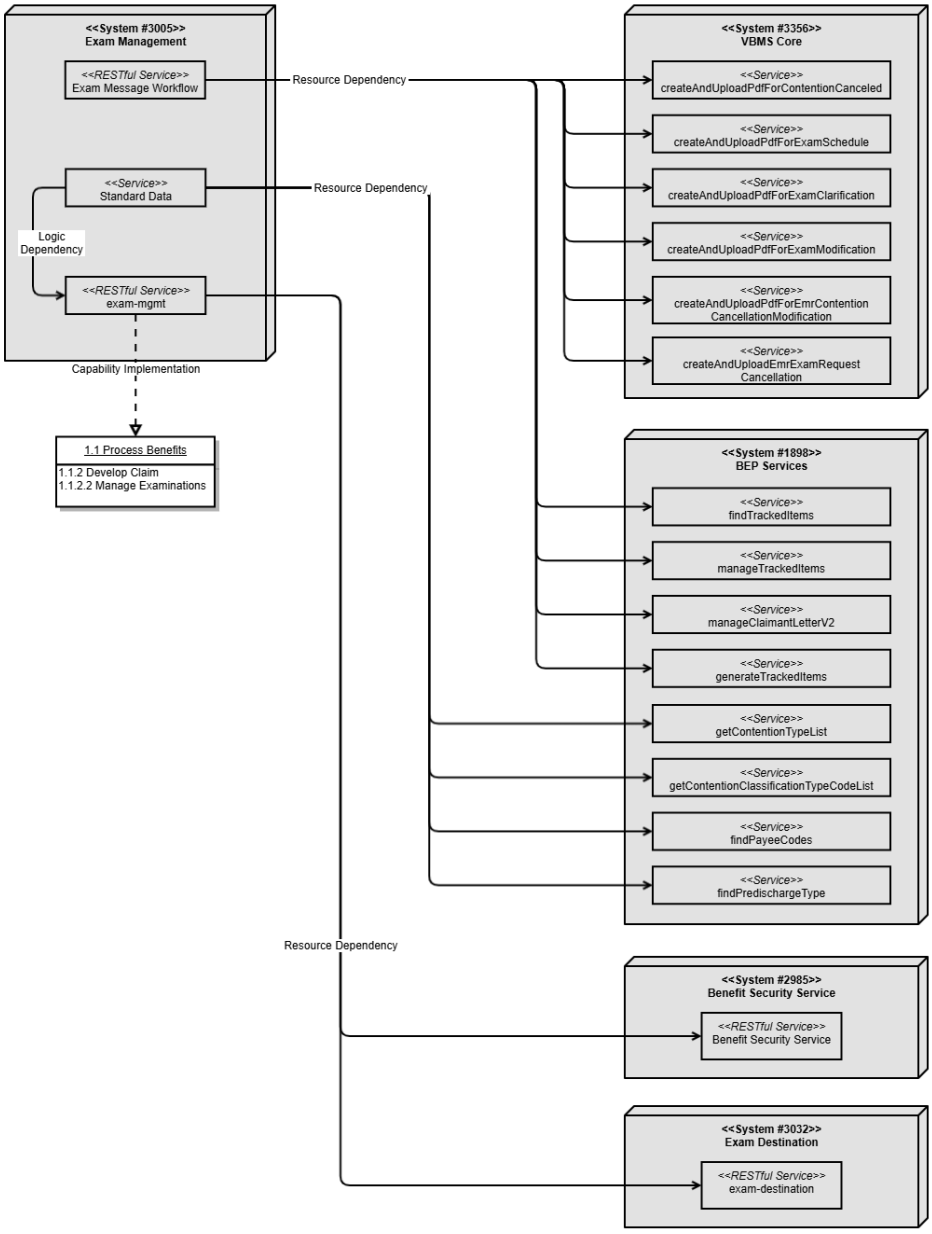
Component References Table

Name	Description
bip-exam-mgmt	Is an API service to provide data to the bip-exam-mgmt-ui.
bip-exam-mgmt-ui	An additional UI to display exams related to a claim with detailed transactional details. This provides a much finer level of detail related to exam management messages, how they are process, system level changes related to them. This is used by advanced or admin users to triage issues related to messages.
bip-exam-standard-data	This is an API used to provide data to the bip-exam-standard-data-ui. This is responsible for processing data transactions related to standard language management.
bip-exam-standard-data-ui	This is the UI tenant related to standard language admin tool. This UI displays editable standard language sets that are managed by MDEO Admin users. Standard language are instructions to medical examiners about an exam request and what information needs to be returned in DBQs.
bip-message-workflow	This service is responsible for ordering, evaluating, and processing all outbound (VBMS to vendor) and inbound (vendor to VBMS) message. This service performs the functions of: ▪ Ordering inbound messages ▪ Determining the eligibility ▪ Updating state within the ESR ▪ Orchestrating any workflow steps Workflow steps may include generating documents to be added to the Veteran eFolder, managing tracked Items, or generating response messages as needed.

bip-exam-document-processor	The exam document processor is responsible for sending all eFolder documents related to a Veteran when new exam requests are sent to vendors The exam document processor integrates with the Claim Evidence API services to build a manifest of documents, transfer the manifest, and also send all Veteran related documents to the MDE vendors.
VEFS Claim Evidence - eFolder	Claim Evidence is a file service for handling the storage and management of files supporting VA benefit claims.
Exam Destination	Exam Destination (ED) is a VBMS service that Exam Management utilizes when scheduling veteran exams. Exam Destination recommends the optimal Vendor to perform the exam based on current capacity and rules. In fact, the term Destination is really synonymous with Vendor. The major functional areas of Exam Destination include: • Allow users to create and modify Rules through a simplified user interface. • Manage approval and activation of Rules. • View the Net Adjusted Allocation Count (NAAC) data. • Obtain optimal Vendor suggestions derived from NAAC data and the currently active Rule. Exam Management is the only consumer of ED's published application programming interface (API) endpoints at this time. These endpoints are secured via a Java Web Token (JWT) Service account, which is established between Exam Management and the Exam Destination microservice.
VBMS Ratings	VBMS-R allows rating specialists to rate a case, determining the extent of disability and recommending a disability benefit.
VBMS Core	VBMS Core is a component of VBMS used to create and develop a Veteran's claim. It is the primary maintenance center for Veteran Service Representatives (VSRs). Core also includes the National Work Queue (NWQ) application.
BEP Services	Benefits Enterprise Platform (BEP) Services, formerly known Benefits Gateway Services (BGS) or Benefits Integration Services (BIS), provides secure integration web services to VBA Corporate Database providing access to Veteran, Claims, Ratings, and Awards data. BEP Services acts as an advisor during conceptual design of new projects and enhancements to the existing systems. BEP Services ensures maximum reuse of services and components among and between new development initiatives and current systems in operations /sustainment.
DAS	DAS, formerly Virtual Lifetime Electronic Record (VLER), is an integrated system that acts as a proxy between consumers and producers of data, aggregating data from multiple data producers to respond to consumer-initiated data transactions.
CAPRI	The Compensation and Pension Record Interchange (CAPRI) project is an information technology initiative to improve service to disabled veterans by promoting efficient communication between the Veterans Health Administration (VHA) and Veterans Benefits Administration (VBA). CAPRI provides VBA employees with a standardized, user-friendly method to rapidly access veterans' electronic medical records throughout the Department of Veterans Affairs (VA). CAPRI is an alternative user interface for the Veterans Health Information Systems and Technology Architecture (VistA) systems, which are terminal, text-based systems.
HAIMS	When VBMS users need access to the Veteran Service Treatment Record (STR) documents, it is used to determine if a disability is service connected. STRs are available to DAS electronically from the DoD HAIMS system. VBMS automatically subscribes to DAS for an STR when a claim is established. When the DoD has assembled the proper documentation for the STR, DAS obtains the documents and notifies VBMS to retrieve them.
Vendor	Connected parties outside the VA that will integrate with this architecture to schedule exam appointments and manage the request lifecycle.

Services Context (SvcV-1) (VASI APIs)

The SvcV-1 describes the connections and dependencies between Exam Management services and connections between Exam Management services and services outside of Exam Management.



Service/API	Operation ID	Description
Exam Management (3005)	/api/v1/exammgmt/exam-message /ContentionSpecialInstructionsRequestMessage/{eventUuid}	Retrieves Contention Special Issue Instruction Request Messages
Exam Management (3005)	/api/v1/exammgmt/exam-message /ExamClarificationResponseRequestMessage/{eventUuid}	Retrieves ESR Clarification Response Request Messages
Exam Management (3005)	/api/v1/exammgmt/exam-message /ExamClarificationRequestMessage/{eventUuid}	Retrieves ESR Clarification Request Messages
Exam Management (3005)	/api/v1/exammgmt/exam-message /ExamScheduleRequestMessage	Retrieves ESR Messages
Exam Management (3005)	/api/v1/exammgmt/exam-message/examRequestsByUuid	Retrieves ESRs
Exam Management (3005)	/api/v1/exammgmt/exam_request_contentions/{esrUuid}	Retrieves Contentions for an ESR
Exam Management (3005)	/api/v1/exammgmt/exam-message /AppointmentCanceledRequestMessage/{eventUuid}	Retrieves Appointment Canceled Request Messages

Exam Management (3005)	/api/v1/exammgmt/exam-message /AppointmentCompletedRequestMessage/{eventUuid}	Retrieves Appointment Completed Request Messages
Exam Management (3005)	/api/v1/exammgmt/exam-message /AppointmentScheduledRequestMessage/{eventUuid}	Retrieves Appointment Scheduled Request Messages
Exam Management (3005)	/api/v1/exammgmt/exam-message /AppointmentUpdatedRequestMessage/{eventUuid}	Retrieves Appointment Updated Request Messages
Exam Management (3005)	/api/v1/exammgmt/exam-message /ExamAddressChangeRequestMessage/{eventUuid}	Retrieves Exam Address Change Request Messages
VBMS UI Web (3356)	/jwt/api/exam/v1/createAndUploadPdfForContentionCanceled	Create and Upload PDF for: Contention Canceled
VBMS UI Web (3356)	/jwt/api/exam/v1/createAndUploadPdfForExamSchedule	Create and Upload PDF for: Exam Scheduled
VBMS UI Web (3356)	/jwt/api/exam/v1/createAndUploadPdfForExamClarification	Create and Upload PDF for: Exam Clarification
VBMS UI Web (3356)	/jwt/api/exam/v1/createAndUploadPdfForExamModification	Create and Upload PDF for: Exam Modification
VBMS UI Web (3356)	/jwt/api/exam/v1 /createAndUploadPdfForEmrContentionCancellationModification	Create and Upload PDF for: EMR Contention cancellation Modification
VBMS UI Web (3356)	/jwt/api/exam/v1/createAndUploadEmrExamRequestCancellation	Create and Upload PDF for: EMR Exam Request cancellation
BEP Services (1898) : TrackedItemService	findTrackedItems	Retrieves Tracked Items
BEP Services (1898) : TrackedItemService	manageTrackedItems	Updates Tracked Items
BEP Services (1898) : DocumentService	manageClaimantLetterV2	Manages Claimant Letters
BEP Services (1898) : DocumentService	generateTrackedItems	Creates Tracked Items
BEP Services (1898) : StandardDataService	getContentionTypeList	Retrieves Contention Types
BEP Services (1898) : StandardDataService	getContentionClassificationTypeCodeList	Retrieves Contention Classification Type Codes
BEP Services (1898) : ShareStandardDataService	findPayeeCodes	Retrieves Payee Codes
BEP Services (1898) : StandardDataWebService	findPredischargeType	Retrieves Predischarge Types
BSS (2985)	Benefit Security Service	Provides authentication and authorization
Exam Destination (3032)	/api/v1/exam-destination/examRouting/requestDestination	Determine suggested and possible destinations (vendors) for an exam

Services Resource Flow (SvcV-2)

The SvcV-2: Resource Flow of Primary Services describes the resource flow between Exam Management services and services outside of Exam Management.

Source System	Source Service	Source Operation	Target System	Target Service	Target Operation
VBMS UI Web	-	-	Exam Management	/api/v1/exammgmt/exam-message /ContentionSpecialInstructionsRequestMessage/{eventUuid}	GET
VBMS UI Web	-	-	Exam Management	/api/v1/exammgmt/exam-message /ExamClarificationResponseRequestMessage/{eventUuid}	GET
VBMS UI Web	-	-	Exam Management	/api/v1/exammgmt/exam-message /ExamClarificationRequestMessage/{eventUuid}	GET
VBMS UI Web	-	-	Exam Management	/api/v1/exammgmt/exam-message /ExamScheduleRequestMessage	GET
VBMS UI Web	-	-	Exam Management	/api/v1/exammgmt/exam-message/examRequestsByUuid	GET
VBMS UI Web	-	-	Exam Management	/api/v1/exammgmt/exam_request_contentions/{esrUuid}	GET

VBMS UI Web	-	-	Exam Management	/api/v1/exammgmt/exam-message /AppointmentCanceledRequestMessage/{eventUuid}	GET
VBMS UI Web	-	-	Exam Management	/api/v1/exammgmt/exam-message /AppointmentCompletedRequestMessage/{eventUuid}	GET
VBMS UI Web	-	-	Exam Management	/api/v1/exammgmt/exam-message /AppointmentScheduledRequestMessage/{eventUuid}	GET
VBMS UI Web	-	-	Exam Management	/api/v1/exammgmt/exam-message /AppointmentUpdatedRequestMessage/{eventUuid}	GET
VBMS UI Web	-	-	Exam Management	/api/v1/exammgmt/exam-message /ExamAddressChangeRequestMessage/{eventUuid}	GET
Exam Message Workflow	/bip-message-workflow /api/v1/message	POST	VBMS UI Web	/jwt/api/exam/v1/createAndUploadPdfForContentionCanceled	POST
Exam Message Workflow	/bip-message-workflow /api/v1/message	POST	VBMS UI Web	/jwt/api/exam/v1/createAndUploadPdfForExamSchedule	POST
Exam Message Workflow	/bip-message-workflow /api/v1/message	POST	VBMS UI Web	/jwt/api/exam/v1/createAndUploadPdfForExamClarification	POST
Exam Message Workflow	/bip-message-workflow /api/v1/message	POST	VBMS UI Web	/jwt/api/exam/v1/createAndUploadPdfForExamModification	POST
Exam Message Workflow	/bip-message-workflow /api/v1/message	POST	VBMS UI Web	/jwt/api/exam/v1 /createAndUploadPdfForEmrContentionCancellationModification	POST
Exam Message Workflow	/bip-message-workflow /api/v1/message	POST	VBMS UI Web	/jwt/api/exam/v1 /createAndUploadEmrExamRequestCancellation	POST
Exam Message Workflow	/bip-message-workflow /api/v1/message	POST	BEP Services : TrackedItemService	findTrackedItems	GET
Exam Message Workflow	/bip-message-workflow /api/v1/message	POST	BEP Services : TrackedItemService	manageTrackedItems	POST
Exam Message Workflow	/bip-message-workflow /api/v1/message	POST	BEP Services : DocumentService	manageClaimantLetterV2	POST
Exam Message Workflow	/bip-message-workflow /api/v1/message	POST	BEP Services : DocumentService	generateTrackedItems	POST
Exam Standard Data	-	-	BEP Services : StandardDataService	getContentionTypeList	GET
Exam Standard Data	-	-	BEP Services : StandardDataService	getContentionClassificationTypeCodeList	GET
Exam Standard Data	-	-	BEP Services : ShareStandardDataService	findPayeeCodes	GET
Exam Standard Data	-	-	BEP Services : StandardDataWebService	findPredischargeType	GET
Exam Management	exam-mgmt	-	BSS	Benefit Security Service	-
Exam Management	exam-mgmt	-	Exam Destination	/api/v1/exammgmt/exam-destination/history/{esrUuid}	GET
Exam Management	exam-mgmt	-	Exam Destination	/api/v1/exam-destination/examRouting/requestDestination	POST

Internal and External Systems-Systems Matrix (SV-3/SvcV-3) (VASI Interfaces)

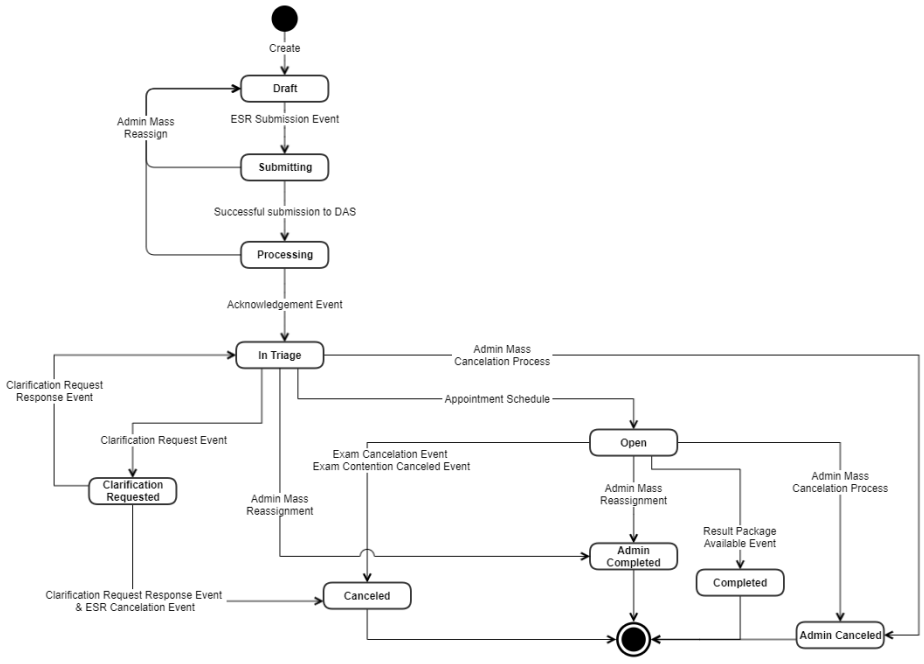
System or Service A	System or Service B	Internal or External	Consumer or Dependency (in relation to System A)
VBMS Core : VBMS UI Web (3356)	Exam Management (3005)	Internal to VBMS	VBMS UI Web is a consumer of Exam Management
Exam Management : Exam Message Workflow (3005)	VBMS Core (3356)	Internal to VBMS	Exam Message Workflow is a consumer of VBMS Core

Exam Management : exam-mgmt (3005)	Exam Destination (3032)	Internal to VBMS	EM depends on Exam Destination
Exam Management : exam-mgmt (3005)	BSS (2985)	Internal to VBMS	EM depends on BSS
Exam Management (3005)	DAS (1979)	External to VBMS	EM depends on DAS a gateway system to transmit messages from VBMS to MDEO Vendor systems.
Exam Management : Standard Data (3005)	BEP Services (1898) : TrackedItemService	External to VBMS	EM Standard Data consumes BEP Services
Exam Management : Standard Data (3005)	BEP Services (1898) : DocumentService	External to VBMS	EM Standard Data consumes BEP Services
Exam Management : Standard Data (3005)	BEP Services (1898) : StandardDataService	External to VBMS	EM Standard Data consumes BEP Services
Exam Management : Standard Data (3005)	BEP Services (1898) : ShareStandardDataService	External to VBMS	EM Standard Data consumes BEP Services
Exam Management : Standard Data (3005)	BEP Services (1898) : StandardDataWebService	External to VBMS	EM Standard Data consumes BEP Services
HAIMS	Exam Management (3005)	External to VBMS	Neither. HAIMS provides service treatment documents (STRs) and they passively receive DBQs from DAS.
Exam Management (3005)	CAPRI (1130)	External to VBMS	VBMS consumes DBQs from CAPRI
VBA Exam Vendor: Loyal Source Government Services (LSGS)	Exam Management (3005)	External to VA	EM depends on vendors to exchange exam requests, provide status updates, and provide DBQ responses.
VBA Exam Vendor: Quality, Timeliness, Customer Service Management, Inc. (QTC)	Exam Management (3005)	External to VA	EM depends on vendors to exchange exam requests, provide status updates, and provide DBQ responses.
VBA Exam Vendor: Optum Serve Health Svc (OSHS)	Exam Management (3005)	External to VA	EM depends on vendors to exchange exam requests, provide status updates, and provide DBQ responses.
VBA Exam Vendor: Veterans Evaluation Service (VES)	Exam Management (3005)	External to VA	EM depends on vendors to exchange exam requests, provide status updates, and provide DBQ responses.
VHA EMS (Cerner)	Exam Management (3005)	External to VBMS	Note: CERNER is not currently active in EM integrations. EM depends on vendors to exchange exam requests, provide status updates, and provide DBQ responses.

State Transitions (OV-6b)

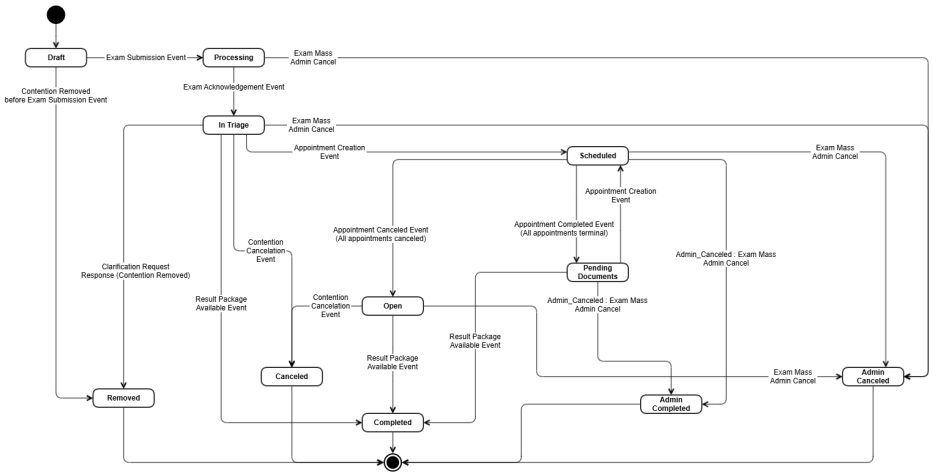
Exam Management State Transitions for ESR, Contention, and Appointments as EM messages are processed.

Exam Schedule Request State Transitions



State	Description
Draft	VSR has created a new request that has yet to be sent to EMS. Request can be changed here without restriction. Submitting: VSR submits the request, creating a Tracked Item and PDF document
Submitting	A request is set to be submitted to DAS. At this point the request is considered submitted Processing: ESR will move to this state once it has been submitted by the VSR Draft: Changes need to be made to the ESR
Processing	The request has been successfully submitted to DAS, but has not been acknowledged In Triage: Request has been acknowledged by the EMS Draft: Changes need to be made to the ESR
In Triage	The EMS has acknowledged receival of request and is beginning triage process Clarification Requested: A gap has been found and/or alteration to request is needed before scheduling appointments Open: No current action is needed but ESR is not complete Admin Canceled: ESR will move to this state when mass canceled by admin Admin Complete: An Admin mass reassignment has occurred
Clarification Requested	VSR needs to alter request to fill any gaps, but once an appointment has been scheduled this will no longer be available In Triage: ESR will move to this state when the request for clarification is fulfilled and the ESR is properly updated Canceled: ESR will move to this state when canceled
Open	No current action is needed but ESR is not complete Canceled: ESR will move to this state when canceled Completed: Appointment has been made and a results package is now available Admin Canceled: ESR will move to this state when mass canceled by admin Admin Complete: An Admin mass reassignment has occurred
Canceled	Request has been canceled for any number of reasons, such as Veteran death. Final: Canceled is a final state
Admin Completed	Admin mass reassignment process has occurred Final: Admin Completed is a final state
Completed	Results Package has become available Final: Completed is a final state
Admin Canceled	Admin mass cancellation process has occurred Final: Admin Canceled is a final state

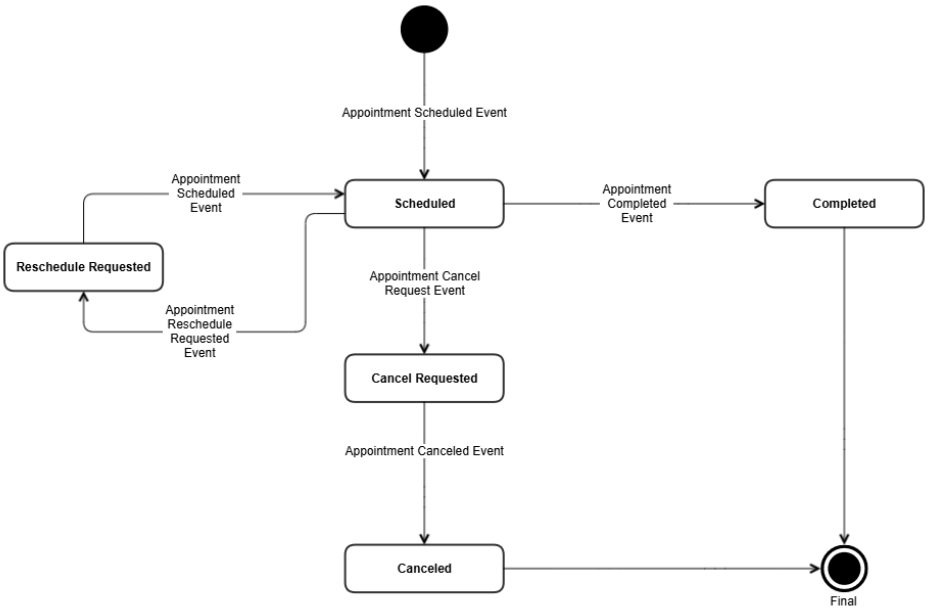
Contention State Transitions



State	Description
Draft	Exam has been scheduled linked to contention Processing: An exam linked with a contention has been successfully submitted, but not yet acknowledged Removed: Contention was removed before an examination occurred
Processing	Exam with linked contention is awaiting acknowledgment Admin Canceled: Exam mass admin cancel has occurred In Triage: Exam has been acknowledged
Removed	Contention was removed from exam before submission Final: Removed is a final state
In Triage	Exam submission has been acknowledged and is beginning triage process Removed: The contention has been removed following a clarification request Canceled: The contention has been canceled Completed: Results package has become available Scheduled: An appointment has been created to carry out exam Admin Canceled: An exam mass admin cancel has occurred
Scheduled	Appointment is scheduled and awaiting appointment date Open: An appointment canceled event has occurred for all appointments Pending Documents: An appointment completed event has occurred. Admin Completed: An exam mass admin cancel has occurred Admin Canceled: An exam mass admin cancel has occurred
Pending Documents	Appointment has been completed and documents are being processed Scheduled: More appointments are needed Completed: The results package has become available Admin Completed: An exam mass admin cancel has occurred

Open	No appointments are currently scheduled but the Contention still has not closed Canceled: The contention has been canceled Completed: The results package has become available Admin Canceled: An exam mass admin cancel has occurred
Canceled	The contention was canceled Final: Canceled is a final state
Admin Canceled	An exam admin mass cancel has occurred Final: Admin Canceled is a final state
Completed	The results package linked to contention has been made available Final: Completed is a final state
Admin Completed	An exam mass admin cancel has occurred Final: Admin Completed is a final state

Appointment State Transitions



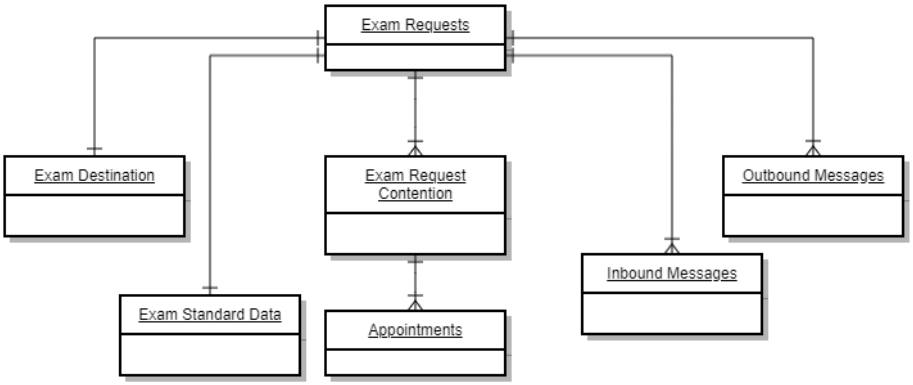
State	Description
Scheduled	Appointment has been scheduled or rescheduled (either as the same appointment or under a new UUID). This exists for both ACE and normal appointments Reschedule Requested: AppointmentRescheduleRequestedEvent is triggered, regardless of where the trigger takes place. Cancel Requested: AppointmentCancelRequestEvent is triggered, the appointment is not yet canceled only requested to be canceled Completed: AppointmentCompleteEvent is triggered, and appointment has taken place
Reschedule Requested	A request to reschedule has been made that needs to be fulfilled by the EMS Scheduled: AppointmentScheduledEvent has triggered and the appointment has been rescheduled by the EMS

Cancel Requested	A request to cancel has been submitted and is awaiting cancellation by the EMS Canceled | AppointmentCanceledEvent has triggered
Canceled	EMS has formally canceled the appointment Final | Canceled is a final state
Completed	The appointment took place and is completed Final | Completed is a final state

Data Models

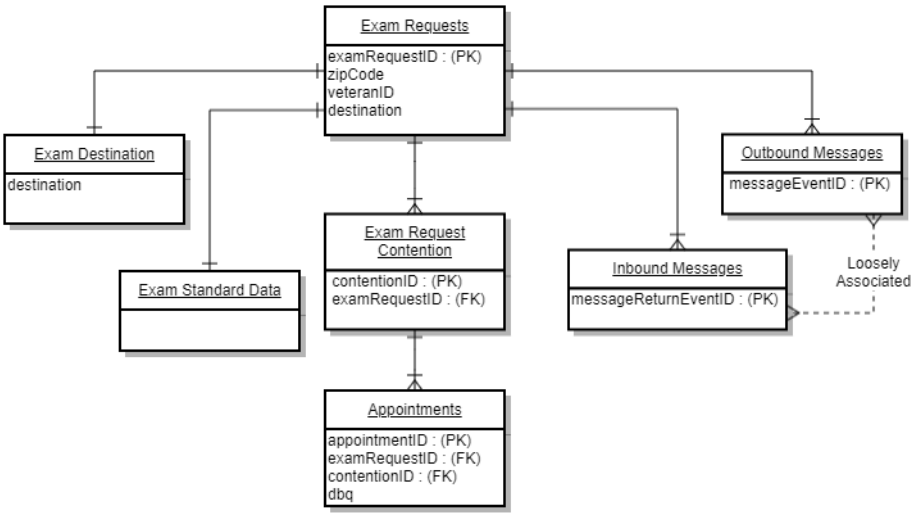
Conceptual Data Viewpoint Model (DIV-1)

The Conceptual Data Viewpoint Model provides a high-level overview of the main Exam Management data concepts and their relationships to each other.

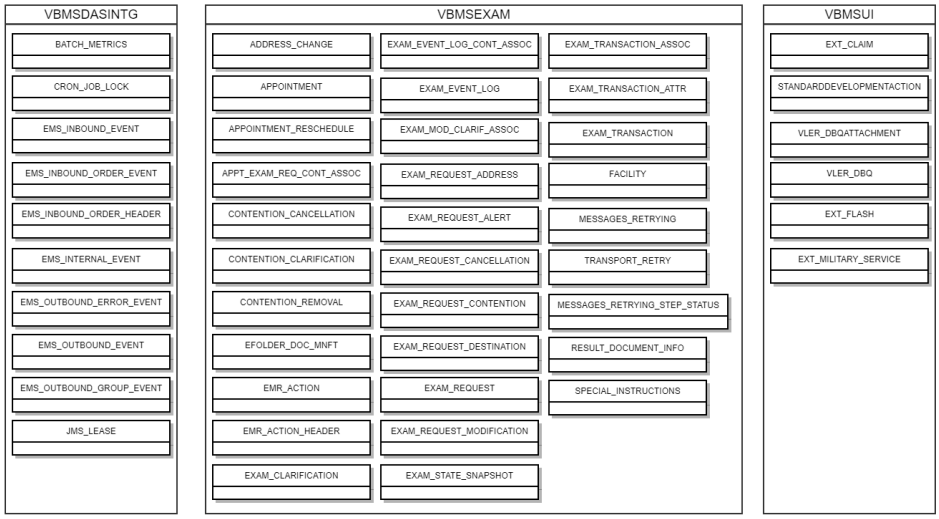


Attribute Name	Data Type	Multiplicity	Constraints	Description
Exam Request	Object	Root Object	none	The Exam Request is the fundamental object for examination requests.
Exam Destination	Object	1..*	none	The Exam Destination record is includes the input parameters used to request a destination, the suggestion options, and the user selection.
Exam Standard Data	Object	1..1	none	The Exam Standard Data is a representation of the instructions to clinicians on the information needed to be provided in a DBQ response.
Exam Request Contention	Object	1..*	none	The Exam Request Contention is a collection of Contentions from a Claim that are associated with the specific exam request.
Appointments	Object	1..*	none	An Appointment represents a scheduled appointment for contention(s). The appointment includes details as to specific clinician, location, date, and time.
Outbound Messages	Object	1..*	none	This represents the messages originating from VBMS sent to the MDE vendors.
Inbound Messages	Object	1..*	none	This represents the messages originating from MDE vendors sent to VBMS.

Logical Data Viewpoint Model (DIV-2)



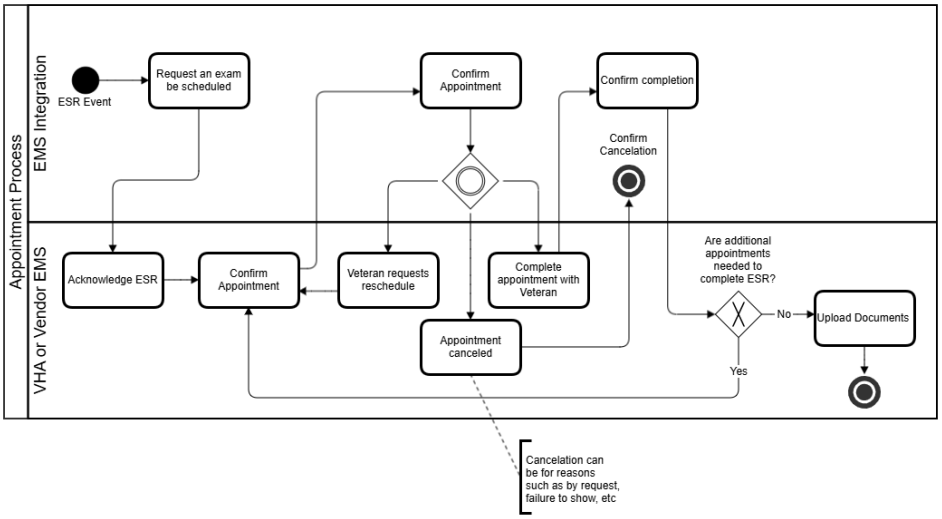
Physical Data Viewpoint Model (DIV-3)



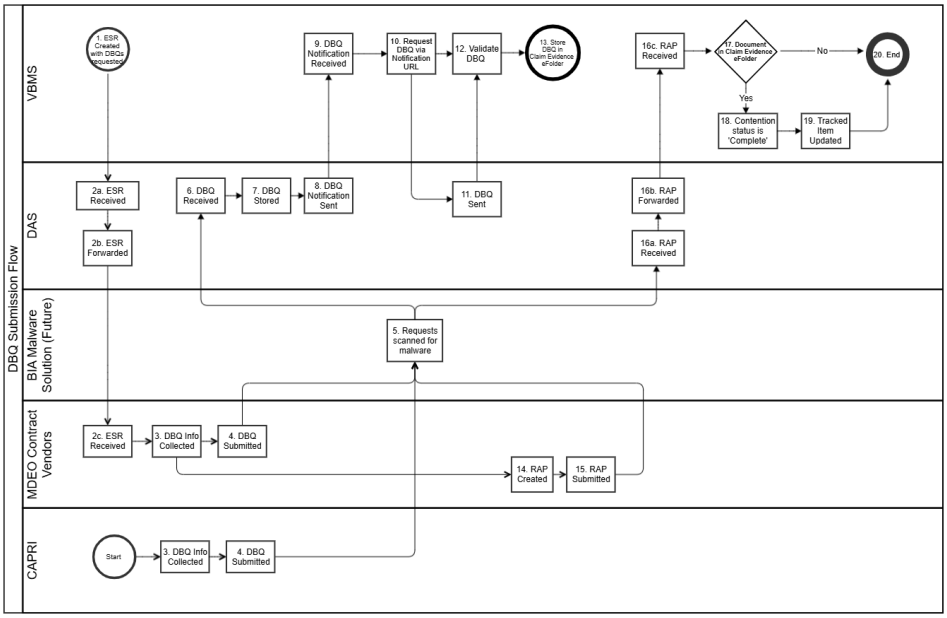
Process View (Business Process Model)

Main Business Process Model (OV-6d)

ESR and Appointment Process Model



Exam and DBQ Process Model



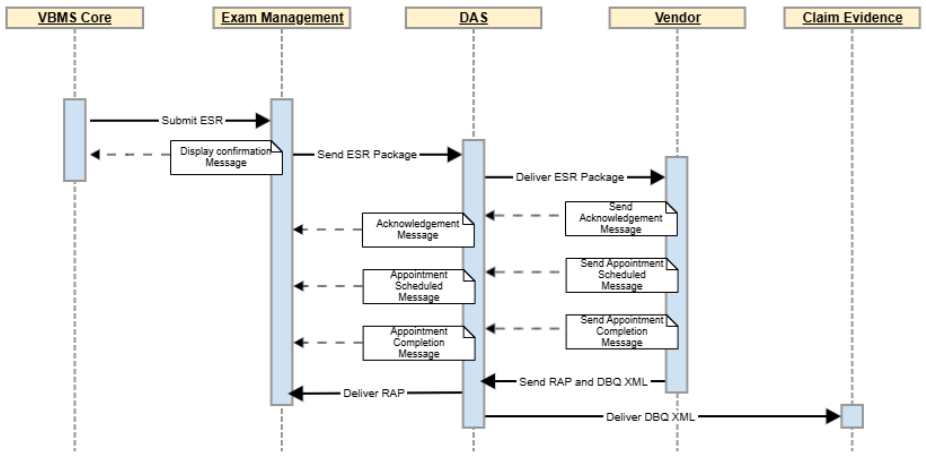
DBQ Submission Flow Details

Step	System	Description
DBQ Process		
1 ESR Created with DBQs requested	VBMS	An Exam Scheduling Request (ESR) is generated that specifies one to many Disability Benefit Questionnaires (DBQ) be completed by the DBQ Producers (CAPRI and MDEO Contract Vendors).
2a. ESR Received	DAS	DAS received the ESR.

2b. ESR Forwarded	DAS	DAS forwards the ESR based on routing details in the <Destination> message element.
2c. ESR Received	MDEO Contract Vendor	Vendor receives the ESR.
3. DBQ Info Collected	MDEO Contract Vendor, CAPRI	The DBQ form information is collected via appointment(s) with the Veteran.
4. DBQ Submitted	MDEO Contract Vendor, CAPRI	The DBQ form information is formatted to be included in the DBQ IEPD. Currently there are different IEDP versions for CAPRI and the MDEO Contract Vendors. They are roughly equivalent, but they have different version numbers and are managed separately. The DBQ Document includes: 1) the XML wrapper (Vendor, Veteran, Claim, and ESR metadata); 2) the DBQ form medical data; 3) no more than 1 document attachment in Base64 encoded format. Note that the document attachments include a provided Document Id that is also used in step 14.
5. Requests scanned for MALWARE	NOC	Requests are scanned by the Network Operations Center (NOC). DAS does not perform any additional MALWARE checks for documents or other information uploaded.
6. DBQ Received	DAS	DAS receives the DBQ document (see step 4)
7. DBQ Stored	DAS	DAS stores the DBQ document (see step 4)
8. DBQ Notification Sent	DAS	DAS will create a DBQ Notification based on the DBQ Document received. The DBQ Notification includes a URL to download the DBQ Document from DAS.
9. DBQ Notification Received	VBMS	VBMS receives and stores the DBQ Notification.
10. Request DBQ via Notification URL	VBMS	VBMS requests the DBQ Document via the URL in the DBQ Notification.
11. DBQ Sent	DAS	DAS provides the DBQ Document back to VBMS.
12. Validate DBQ	VBMS	VBMS will perform schema validation for the DBQ according to the version provided.
13. Store DBQ in eFolder.	VBMS	If there is a validation error (see step 12), the document is not visible in the Veteran Claim Evidence eFolder. If there are no validation errors (see step 12), the DBQ Document is available in the Veteran eFolder. This is the end of the DBQ Document process.
Results Available Package (RAP) Process		

14. RAP Created	MDEO Contract Vendor	MDEO Contract Vendor will generate a Results Available Package (RAP) message. The message includes an association between the DBQ Document Id provided by the DBQ Producer (see step 4) and the ESR Contention UUID.
15. RAP Submitted	MDEO Contract Vendor	MDEO Contract Vendor sends the RAP to DAS.
16a. RAP Received	DAS	DAS receives the RAP message.
16b. RAP Forwarded	DAS	DAS Forwards the RAP to VBMS.
16c. RAP Received	VBMS	VBMS Receives the RAP. When the DBQ is received the system will attempt to confirm if the DBQ Document Id (see steps 4) was validated and is visible in the Claim Evidence eFolder (see steps 12 and 13).
18. Contention status is 'Complete'	VBMS	If the DBQ is visible in the eFolder, the Contention status associated is set to 'COMPLETED'.
19. Tracked Item Updated	VBMS	If the DBQ is visible in the eFolder, the Tracked Items associated to the Contention are closed.
20. End	VBMS	The RAP Process ends.

Process Sequence - Systems Event-Trace Description (SV-10c)



Implementation View

Primary System Technologies (SV-9) (VASI Technology Components)

For standard tools see VBMS SV-9 Master Table.

Software Type	Software Vendor	Software Name	Software Version	TRM Link	TRM ID
Currently no additional technologies.					

Deployment View

The Deployment View provides information on Exam Management in regard to the CI/CD lifecycle.

Environments

See VBMS Environments Info Page for a current list of environments and descriptions. Exam Management components are deployed to all VBMS environments.

System Configuration

Exam Management uses the standard BIP Platform System Configuration.

System Monitoring and Metrics

A DBA process sends hourly emails about exam management performance and message throughput.

Exam Management uses the BIP Platform standard monitoring and metrics.

System Auditing

Exam Management uses the standard BIP Platform System Auditing.

System Logging

Exam Management uses the standard BIP Platform System Logging.

Security Requirements

Exam Management uses the standard BIP Platform Security Requirements.