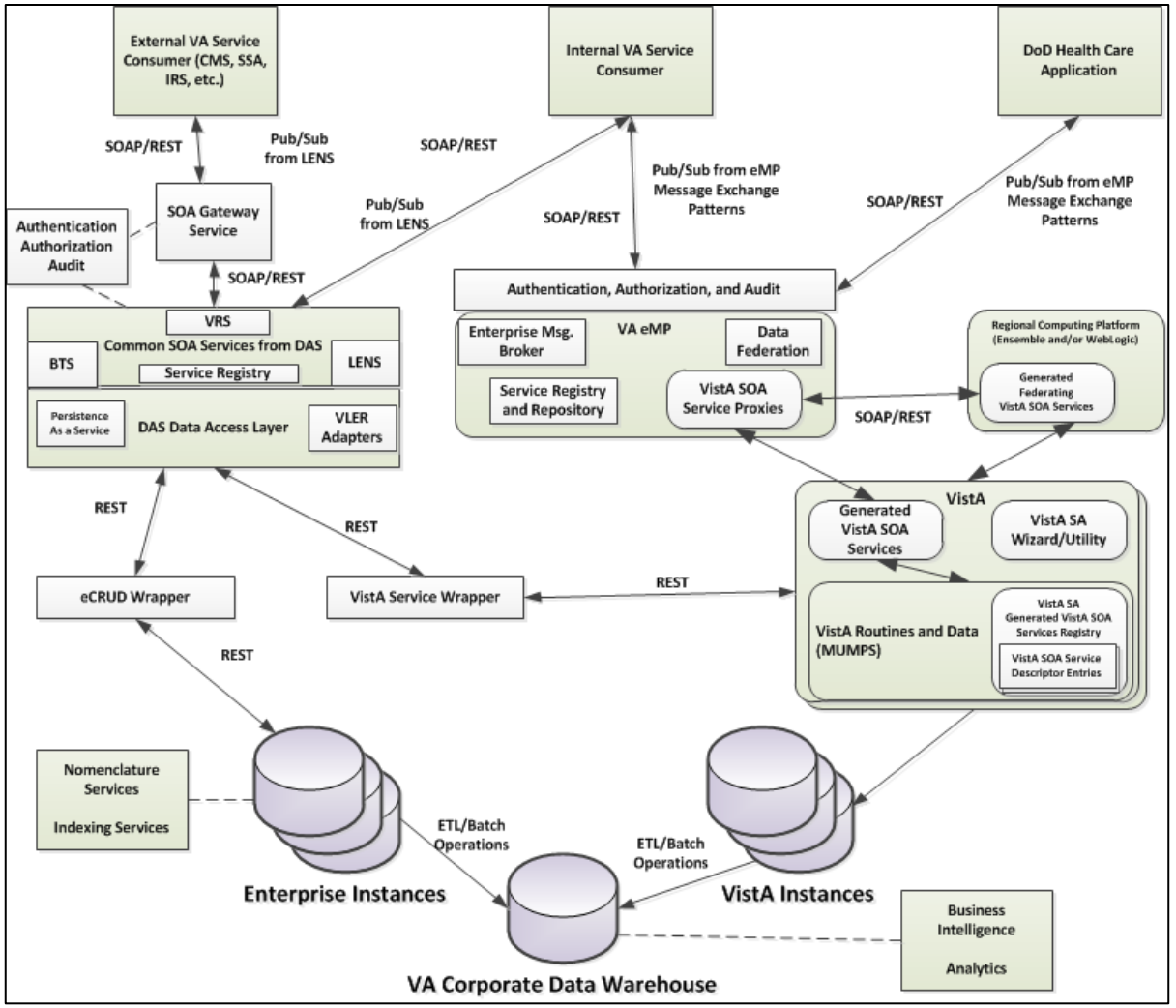
Scheduling Capability Architecture

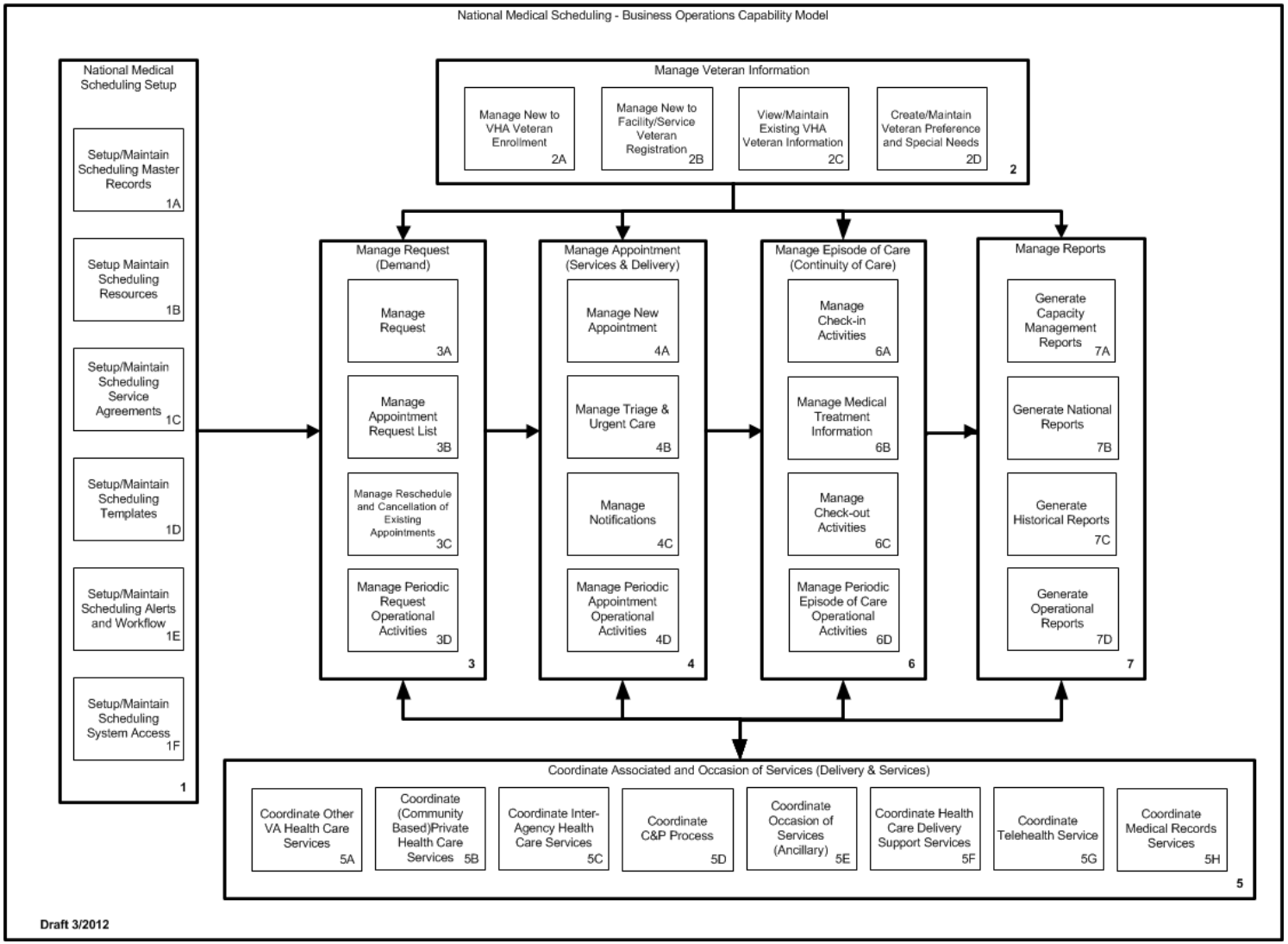
May 30, 2014

Design Pattern: Shared Services in the VA Enterprise

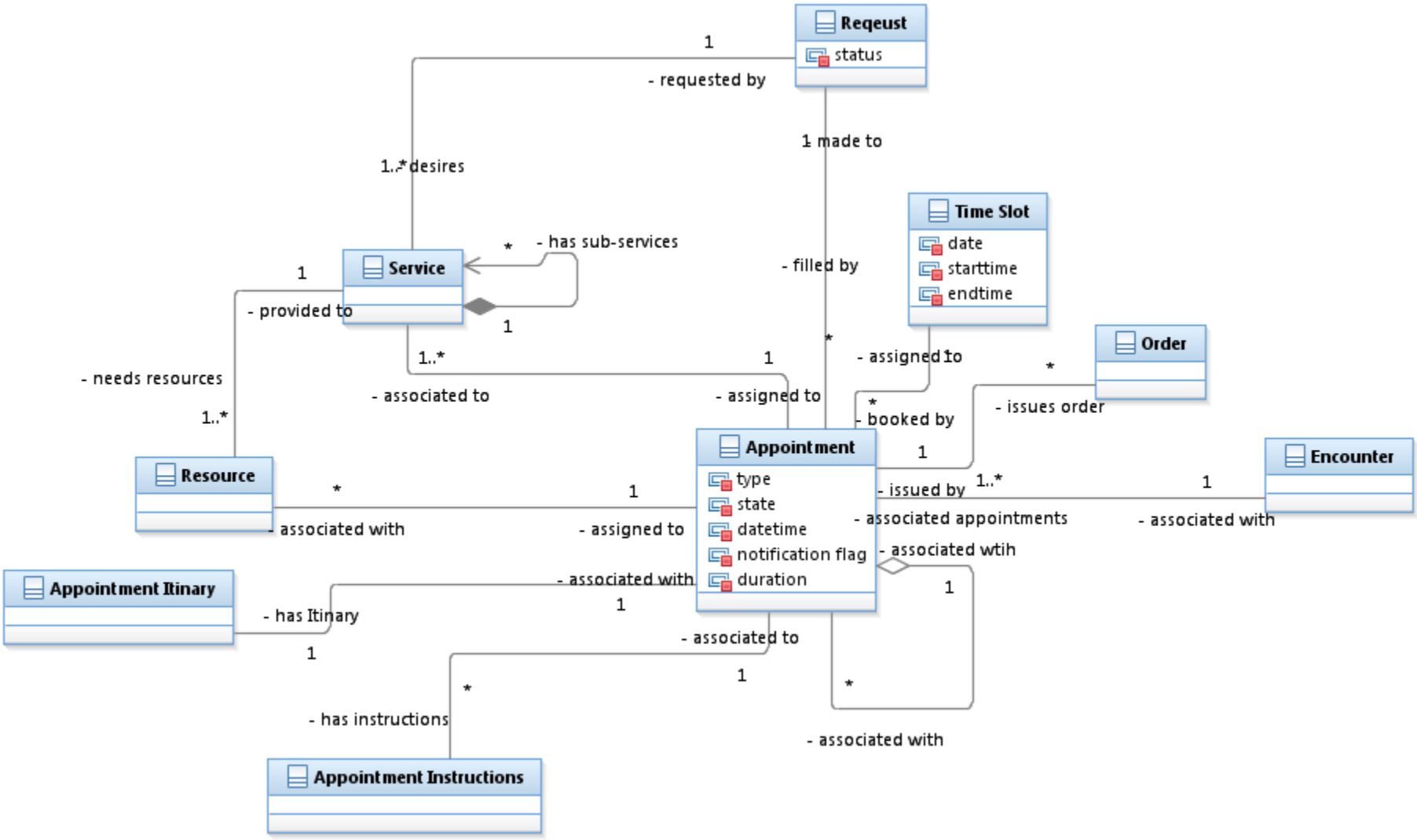


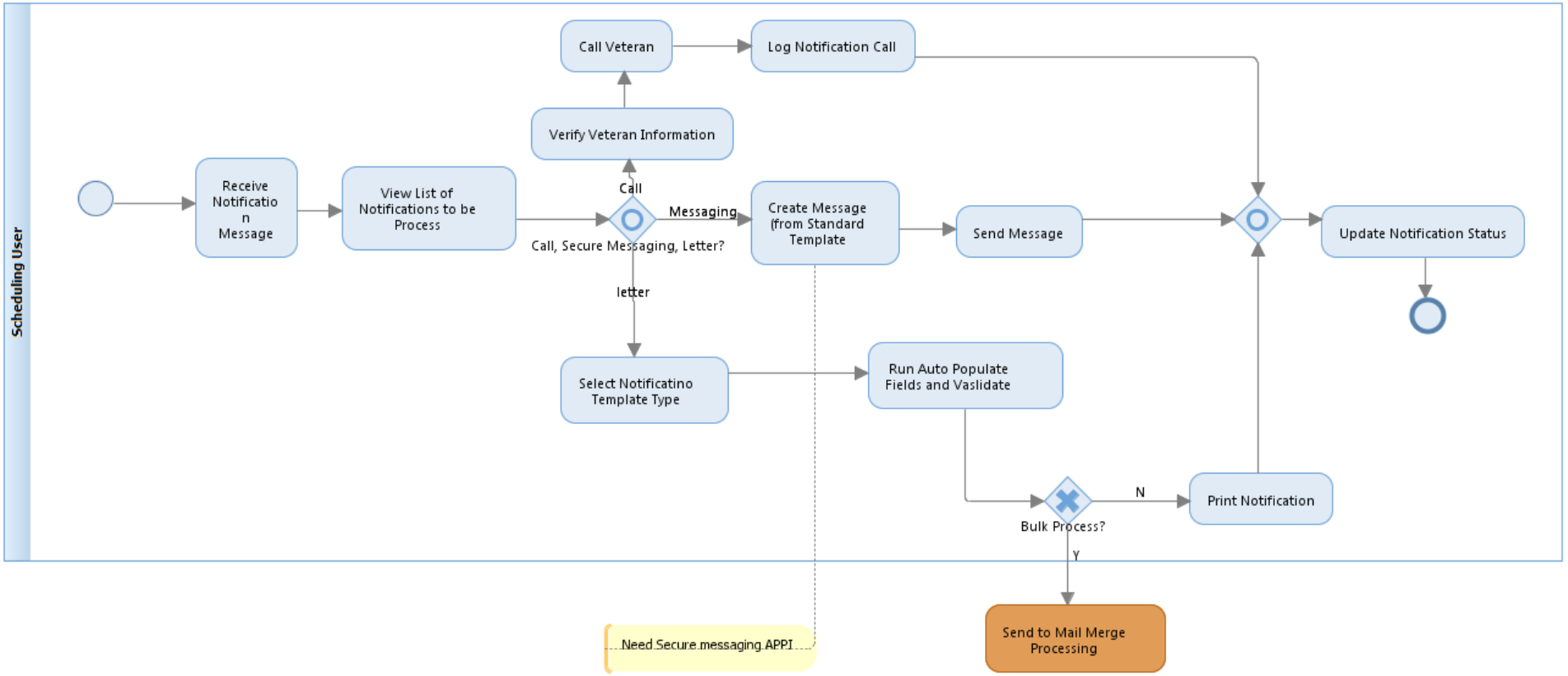
Working Draft, Pre-Decisional, Deliberative Document – Internal VA Use Only

Business Process Framework

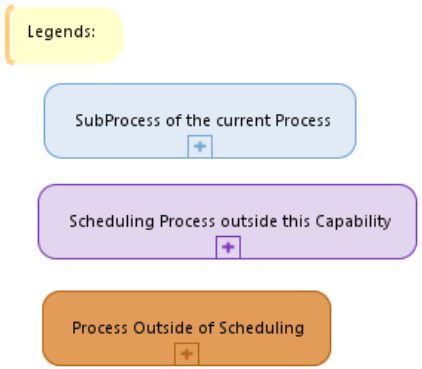


Appointment Model





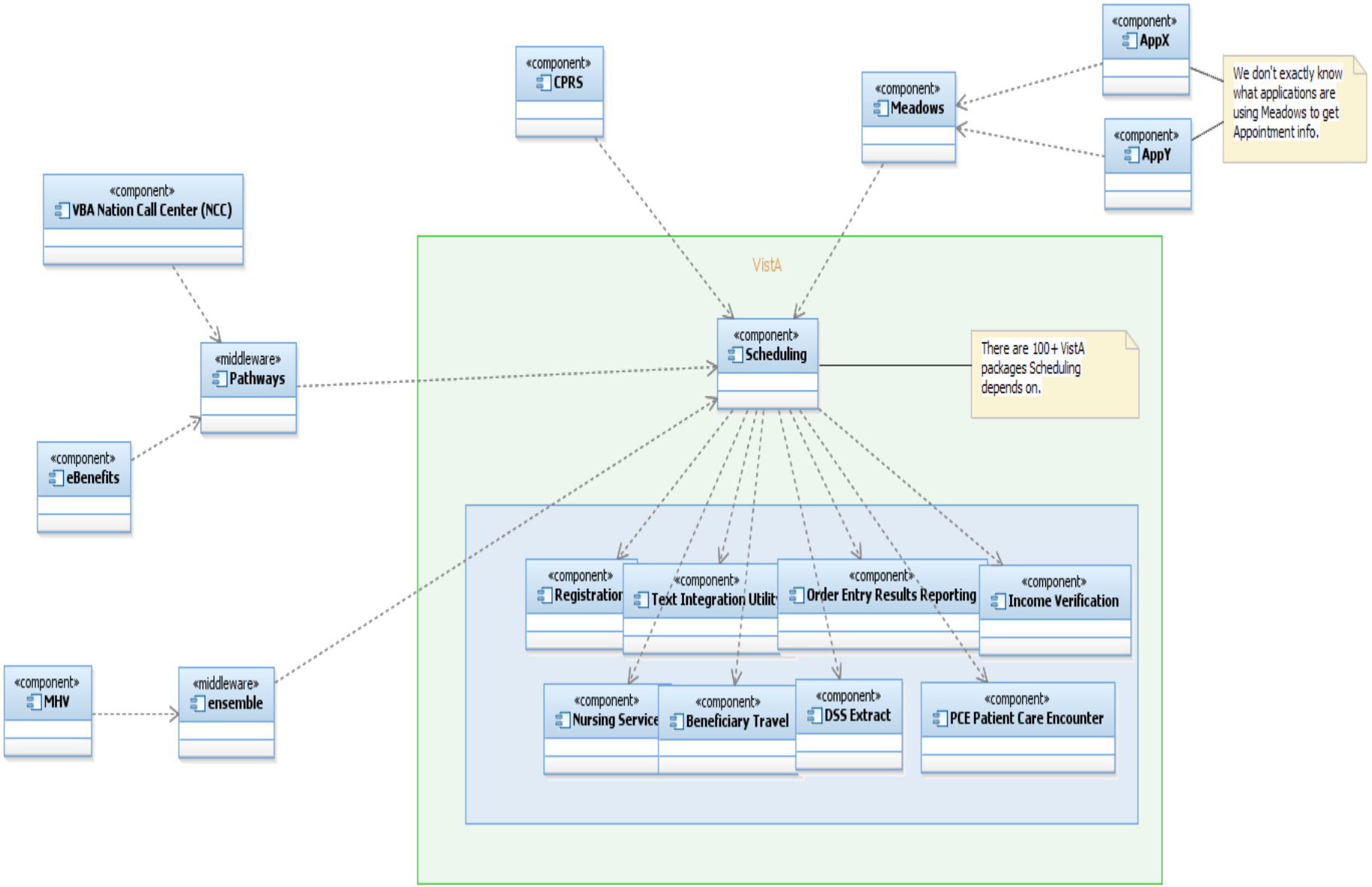
Process Notification



Scheduling Capability Overview

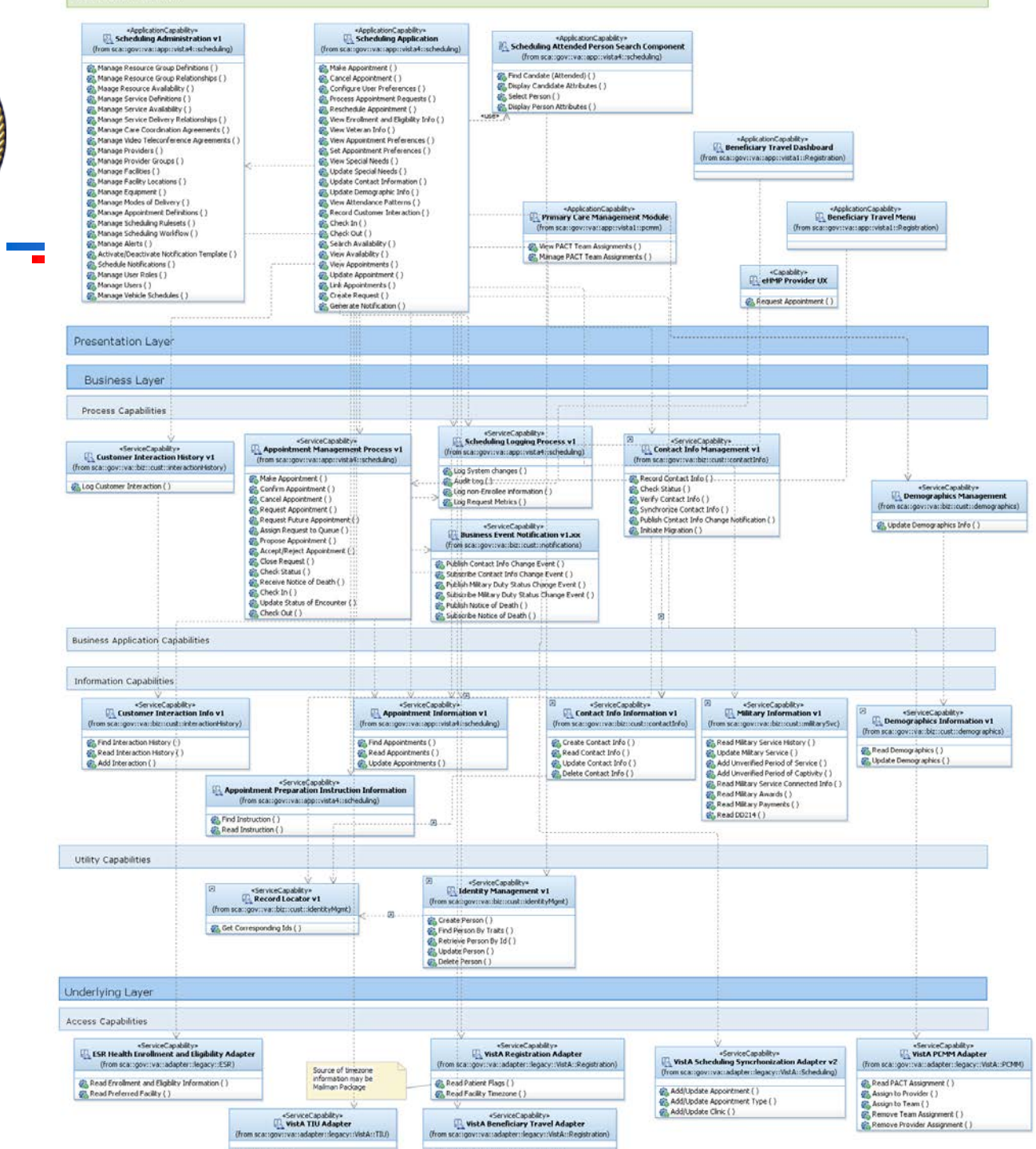
- VistA Scheduling is dependent upon 41 legacy VistA Packages
- 71 legacy VistA packages are dependent upon VistA Scheduling
- These dependencies represent over a thousand individual integration points
  - http://code.osehra.org/dox/Package_Scheduling.html
- A generic enterprise service must be created to ensure the synchronization of appointment data between the new Medical Appointment Scheduling System (MASS) and legacy VistA, and other VA consumers and producers
- The MASS is a system of systems that must provide enterprise services enabling current and future applications access to scheduling and related data
- Legacy integration points will be migrated to MASS provided enterprise services over time
- MASS will provide enterprise services to integrate with legacy packages as required

As-Is Scheduling System Integration View



Scheduling Integration Views

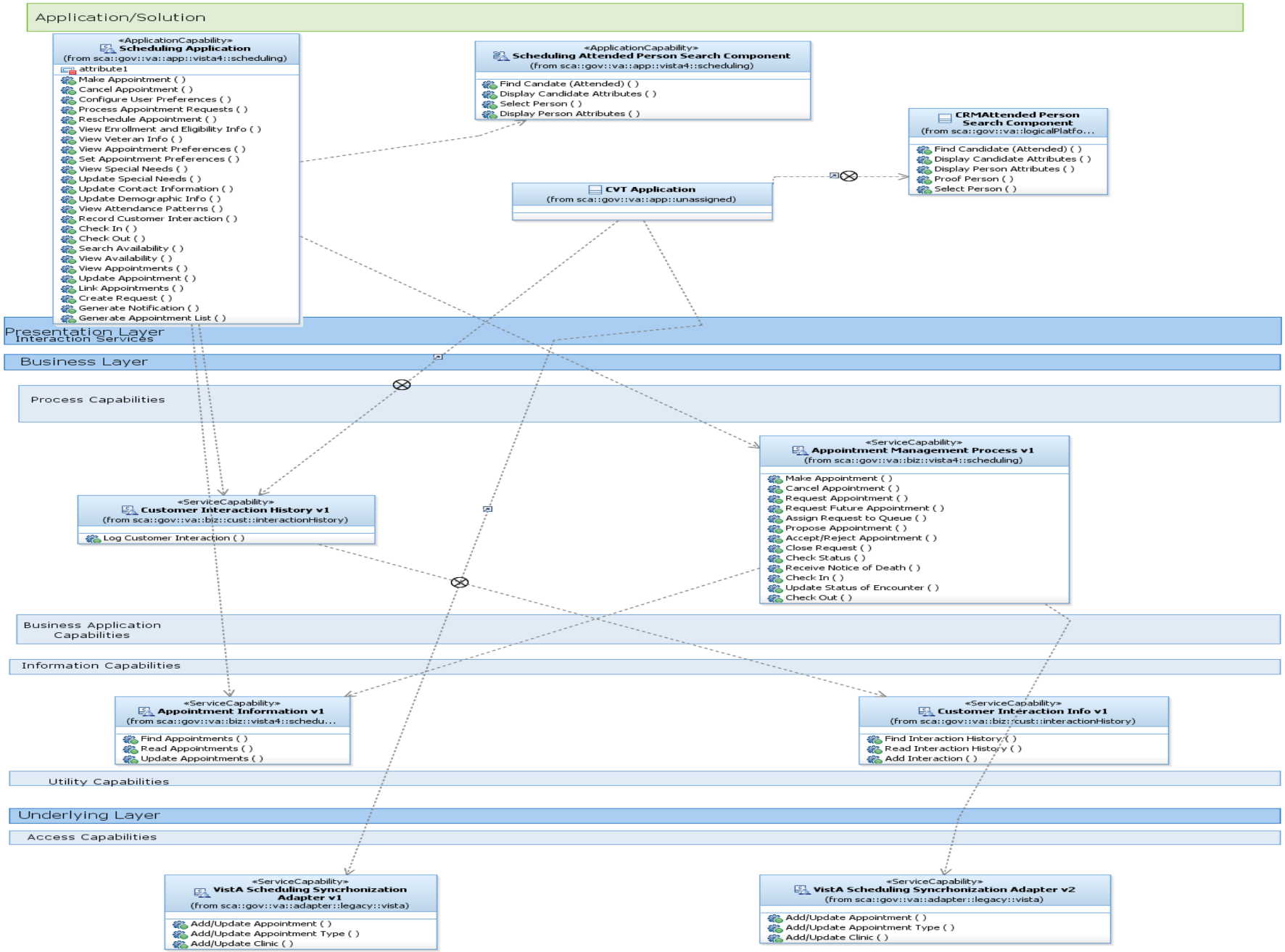
- Primary Capability View
- CVT Capability View
- Provisioning Integration Capability View
- Portal Integration Capability View
- CRM Integration Capability View
- CEN Integration Capability View
- Partner Integration Capability View


«ApplicationCapability» Scheduling Administration v1 (from sca::gov::va::app::vista4::scheduling)
Manage Resource Group Definitions ( )
Manage Resource Group Relationships ( )
Maage Resource Availability ( )
Manage Service Definitions ( )
Manage Service Availability ( )
Manage Service Delivery Relationships ( )
Manage Care Coordination Agreements ( )
Manage Video Teleconference Agreements ( )
Manage Providers ( )
Manage Provider Groups ( )
Manage Facilities ( )
Manage Facility Locations ( )
Manage Equipment ( )
Manage Modes of Delivery ( )
Manage Appointment Definitions ( )
Manage Scheduling Rulesets ( )
Manage Scheduling Workflow ( )
Manage Alerts ( )
Activate/Deactivate Notification Template ( )
Schedule Notifications ( )
Manage User Roles ( )
Manage Users ( )
Manage Vehicle Schedules ( )
«ApplicationCapability» Scheduling Application (from sca::gov::va::app::vista4::scheduling)
Make Appointment ( )
Cancel Appointment ( )
Configure User Preferences ( )
Process Appointment Requests ( )
Reschedule Appointment ( )
View Enrollment and Eligibility Info ( )
View Veteran Info ( )
View Appointment Preferences ( )
Set Appointment Preferences ( )
View Special Needs ( )
Update Special Needs ( )
Update Contact Information ( )
Update Demographic Info ( )
View Attendance Patterns ( )
Record Customer Interaction ( )
Check In ( )
Check Out ( )
Search Availability ( )
View Availability ( )
View Appointments ( )
Update Appointment ( )
Link Appointments ( )
Create Request ( )
Generate Notification ( )
«ApplicationCapability» Scheduling Attended Person Search Component (from sca::gov::va::app::vista4::scheduling)
Find Candate (Attended) ( )
Display Candidate Attributes ( )
Select Person ( )
Display Person Attributes ( )
«use»
«ApplicationCapability» Beneficiary Travel Dashboard (from sca::gov::va::app::vista1::Registration)
«ApplicationCapability» Primary Care Management Module (from sca::gov::va::app::vista1::pcmm)
View PACT Team Assignments ( )
Manage PACT Team Assignments ( )
«ApplicationCapability» Beneficiary Travel Menu (from sca::gov::va::app::vista1::Registration)
«Capability» eHMP Provider UX
Request Appointment ( )
Presentation Layer
Business Layer
Process Capabilities
«ServiceCapability» Customer Interaction History v1 (from sca::gov::va::biz::cust::interactionHistory)
Log Customer Interaction ( )
«ServiceCapability» Appointment Management Process v1 (from sca::gov::va::app::vista4::scheduling)
Make Appointment ( )
Confirm Appointment ( )
Cancel Appointment ( )
Request Appointment ( )
Request Future Appointment ( )
Assign Request to Queue ( )
Propose Appointment ( )
Accept/Reject Appointment ( )
Close Request ( )
Check Status ( )
Receive Notice of Death ( )
Check In ( )
Update Status of Encounter ( )
Check Out ( )
«ServiceCapability» Scheduling Logging Process v1 (from sca::gov::va::app::vista4::scheduling)
Log System changes ( )
Audit log ( )
Log non-Enrollee information ( )
Log Request Metrics ( )
«ServiceCapability» Business Event Notification v1.xx (from sca::gov::va::biz::cust::notifications)
Publish Contact Info Change Event ( )
Subscribe Contact Info Change Event ( )
Publish Military Duty Status Change Event ( )
Subscribe Military Duty Status Change Event ( )
Publish Notice of Death ( )
Subscribe Notice of Death ( )
«ServiceCapability» Contact Info Management v1 (from sca::gov::va::biz::cust::contactInfo)
Record Contact Info ( )
Check Status ( )
Verify Contact Info ( )
Synchronize Contact Info ( )
Publish Contact Info Change Notification ( )
Initiate Migration ( )
«ServiceCapability» Demographics Management (from sca::gov::va::biz::cust::demographics)
Update Demographics Info ( )
Business Application Capabilities
Information Capabilities
«ServiceCapability» Customer Interaction Info v1 (from sca::gov::va::biz::cust::interactionHistory)
Find Interaction History ( )
Read Interaction History ( )
Add Interaction ( )
«ServiceCapability» Appointment Information v1 (from sca::gov::va::app::vista4::scheduling)
Find Appointments ( )
Read Appointments ( )
Update Appointments ( )
«ServiceCapability» Contact Info Information v1 (from sca::gov::va::biz::cust::contactInfo)
Create Contact Info ( )
Read Contact Info ( )
Update Contact Info ( )
Delete Contact Info ( )
«ServiceCapability» Military Information v1 (from sca::gov::va::biz::cust::militarySvc)
Read Military Service History ( )
Update Military Service ( )
Add Unverified Period of Service ( )
Add Unverified Period of Captivity ( )
Read Military Service Connected Info ( )
Read Military Awards ( )
Read Military Payments ( )
Read DD214 ( )
«ServiceCapability» Demographics Information v1 (from sca::gov::va::biz::cust::demographics)
Read Demographics ( )
Update Demographics ( )
«ServiceCapability» Appointment Preparation Instruction Information (from sca::gov::va::app::vista4::scheduling)
Find Instruction ( )
Read Instruction ( )
Utility Capabilities
«ServiceCapability» Record Locator v1 (from sca::gov::va::biz::cust::identityMgmt)
Get Corresponding Ids ( )
«ServiceCapability» Identity Management v1 (from sca::gov::va::biz::cust::identityMgmt)
Create Person ( )
Find Person By Traits ( )
Retrieve Person By Id ( )
Update Person ( )
Delete Person ( )
Underlying Layer
Access Capabilities
«ServiceCapability» ESR Health Enrollment and Eligibility Adapter (from sca::gov::va::adapter::legacy::ESR)
Read Enrollment and Eligibility Information ( )
Read Preferred Facility ( )
Source of timezone information may be Mailman Package
«ServiceCapability» VistA Registration Adapter (from sca::gov::va::adapter::legacy::VistA::Registration)
Read Patient Flags ( )
Read Facility Timezone ( )
«ServiceCapability» VistA Scheduling Synchronization Adapter v2 (from sca::gov::va::adapter::legacy::VistA::Scheduling)
Add/Update Appointment ( )
Add/Update Appointment Type ( )
Add/Update Clinic ( )
«ServiceCapability» VistA PCMM Adapter (from sca::gov::va::adapter::legacy::VistA::PCMM)
Read PACT Assignment ( )
Assign to Provider ( )
Assign to Team ( )
Remove Team Assignment ( )
Remove Provider Assignment ( )
«ServiceCapability» VistA TIU Adapter (from sca::gov::va::adapter::legacy::VistA::TIU)
«ServiceCapability» VistA Beneficiary Travel Adapter (from sca::gov::va::adapter::legacy::VistA::Registration)

Scheduling: Telemedicine Integration

- Is part of the MASS capabilities
- Appointment information must be synchronized in a similar fashion to other MASS appointments

CVT Capability View

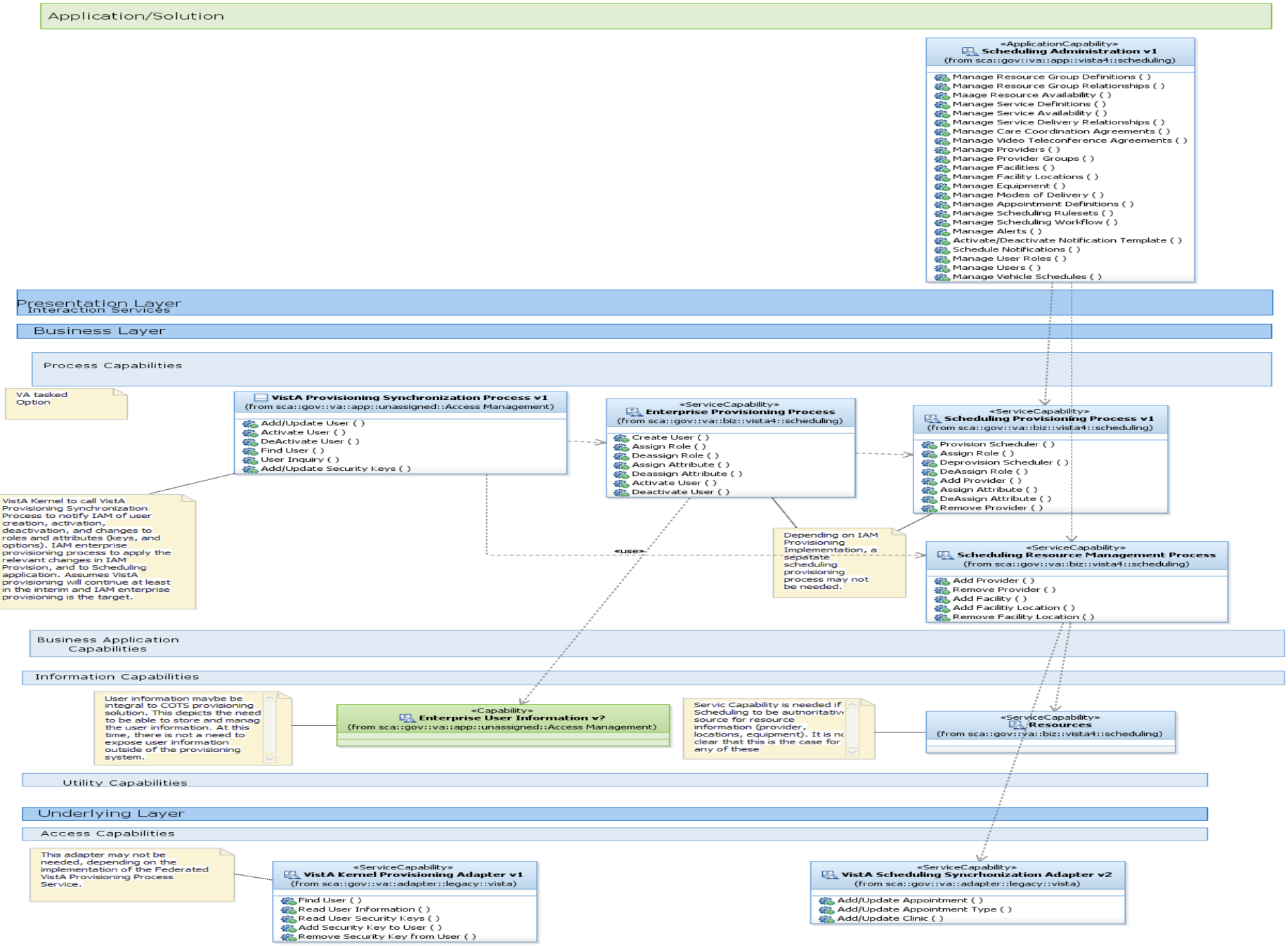


Scheduling: User Provisioning Integration

User Provisioning:

- The long term vision is that MASS scheduling user provisioning will be provided by IAM enterprise provisioning.
- The integration of VistA provisioning (Kernel A&A, menus, options, and security keys) with IAM is underway, but will take some time to fully realize.
- Given the number of staff (over 50,000), and the decentralized process (users are provisioned at each local site), VistA Kernel will be used for some time.
- The planned approach is to modify Kernel to notify IAM provisioning of these changes, and IAM provisioning will then make the enterprise level change.

Provisioning Integration Capability View

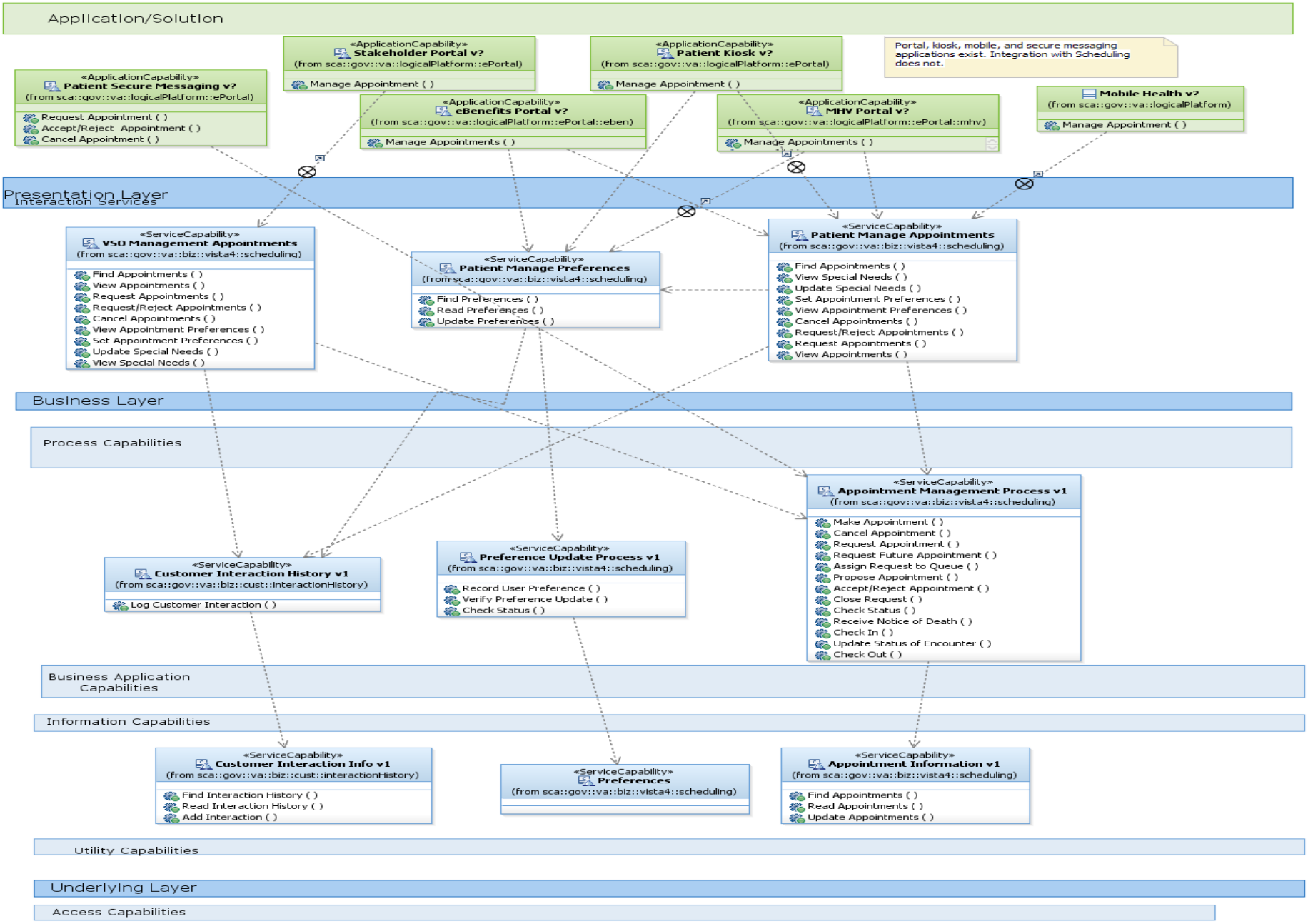


Scheduling: Veteran Facing Systems Integration

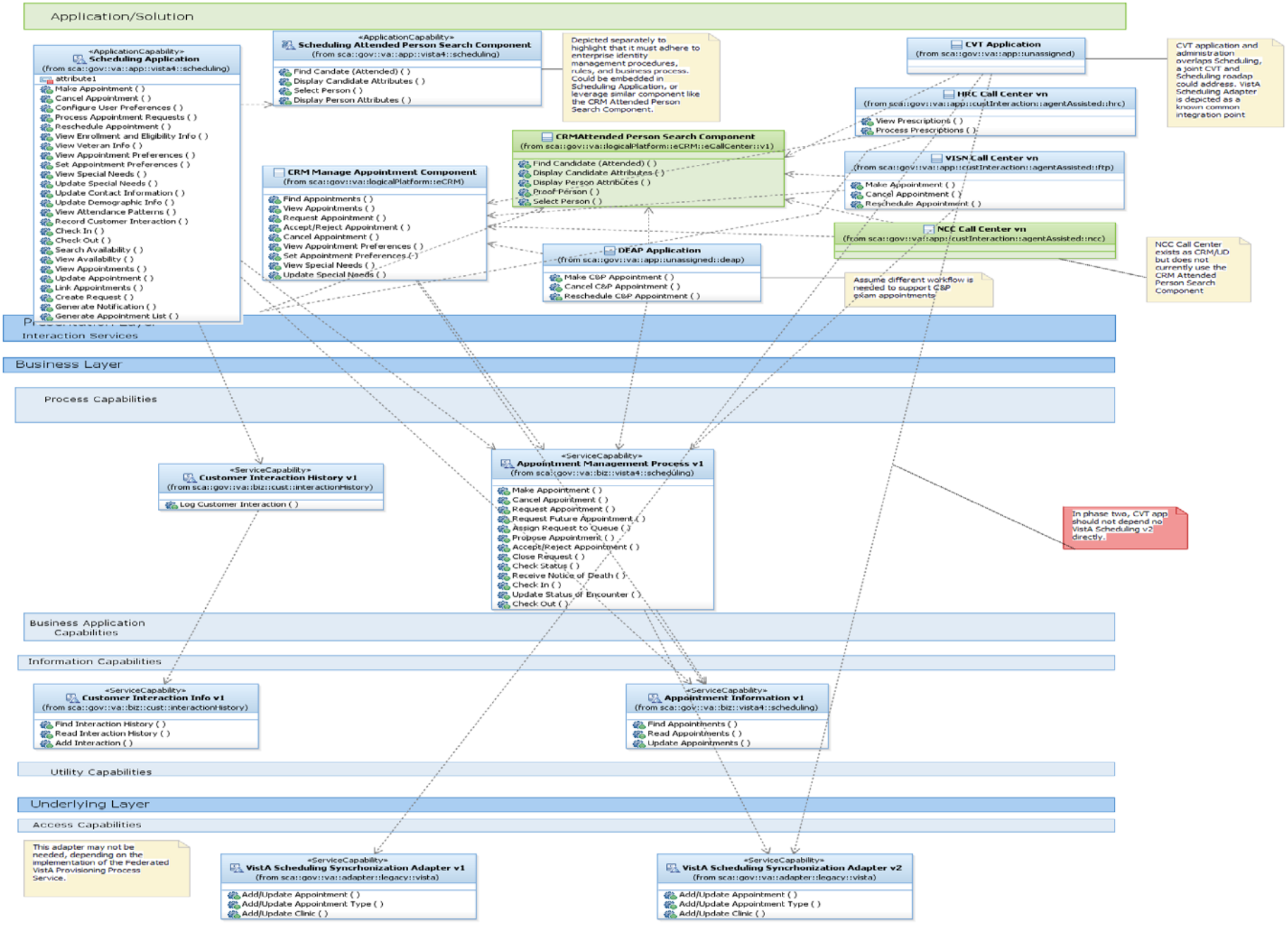
Veteran Facing systems Integration:

- There is a need to support the ability to request appointments through a variety of veteran facing systems.
- Requests are expected to come through a variety of channels, including mobile, web self service, kiosk, and call centers.
- Generic enterprise services will be built or upgraded as part of MASS
- Portal Integration
  - My HealtheVet, eBenefits, SEP, Kiosk, and mobile apps all have current requirements to view and request/reschedule/cancel appointments.
  - Most already have some limited ability to view appointments.
  - EVSS and Connected Health both have objectives to provide a consistent user experience, which can be provided by shared presentation tier services.
- Call Center and Case Management Integration
  - HRC, NCC, VISN and VAMC call centers support calls related to appointments.
  - Customer service representatives need to view appointment information and need to be able to view and request/reschedule/cancel appointments.
  - CRME can provide a common application component that can be used like a plug in for all call centers and case management systems built on MS Dynamics.

Portal Integration Capability View



CRM Integration Capability View (notional)

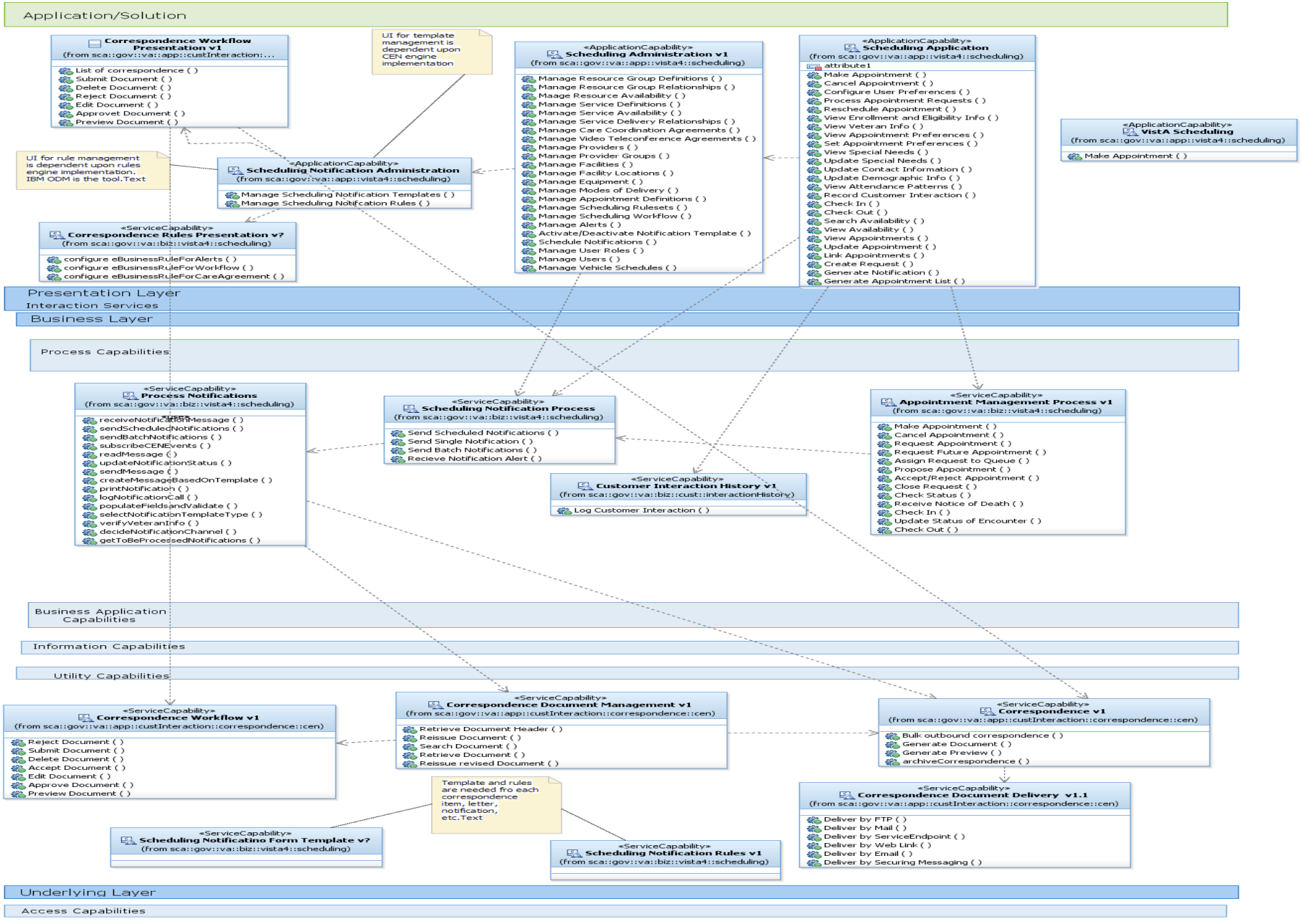


Scheduling: Correspondence and Notification Integration

Correspondence and Notification:

- The enterprise Correspondence engine and notifications effort (CEN) will provide the functionality needed by MASS scheduling
- Any portion of CEN needed by MASS, but not in the first CEN iteration will be delivered by MASS, and re-used by the rest of the enterprise.
- MASS specific rules and templates will be supported by CEN.
- MASS specific processes will be developed by MASS.

Correspondence and Notifications Integration Capability View

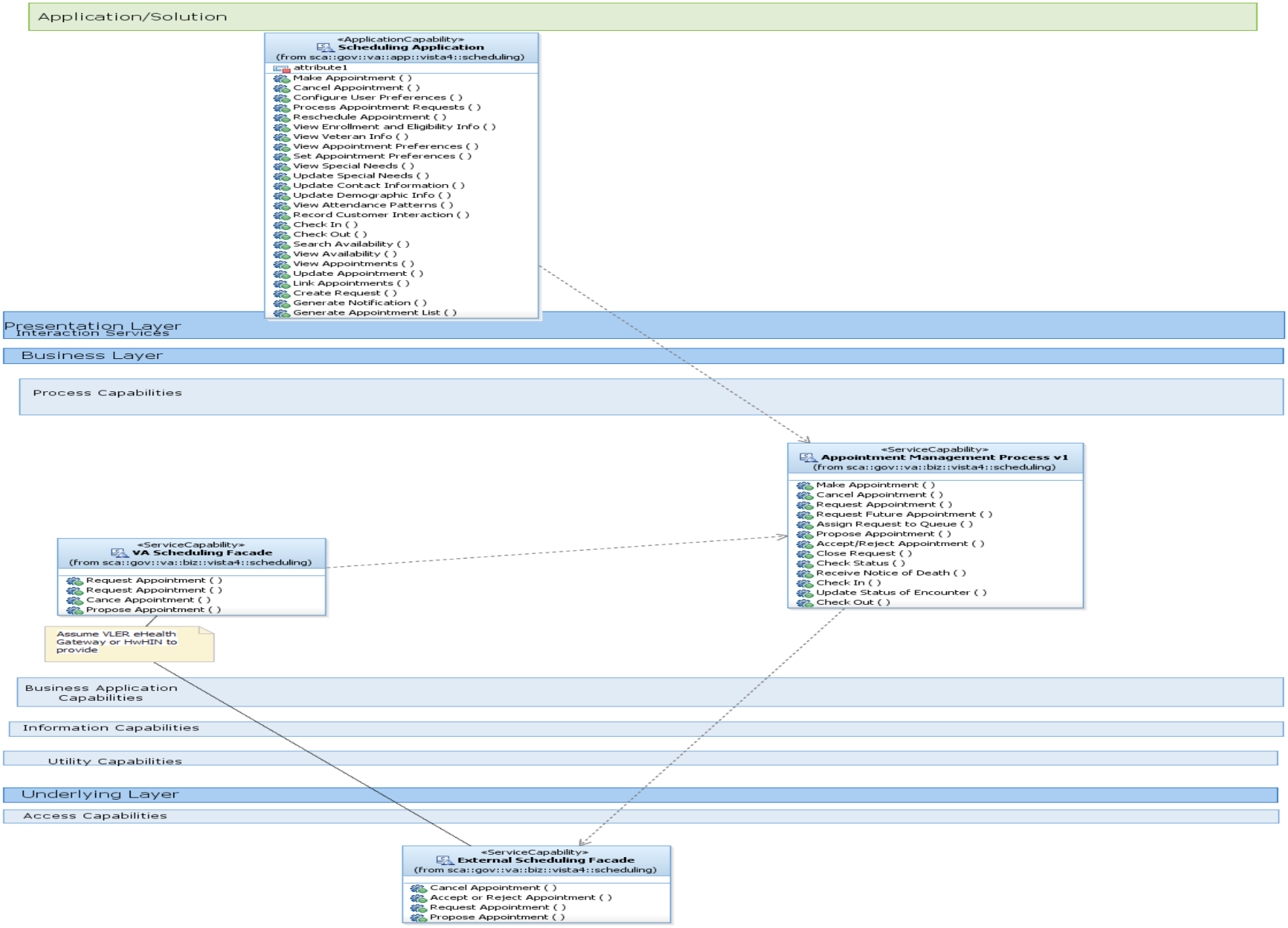


Scheduling: External Partners Integration

Partner Integration:

- The ability to request/reschedule/cancel appointments with external partners is needed.
- The ability for external partners to request/reschedule/cancel appointments with VA is needed.

Partner Integration Capability View



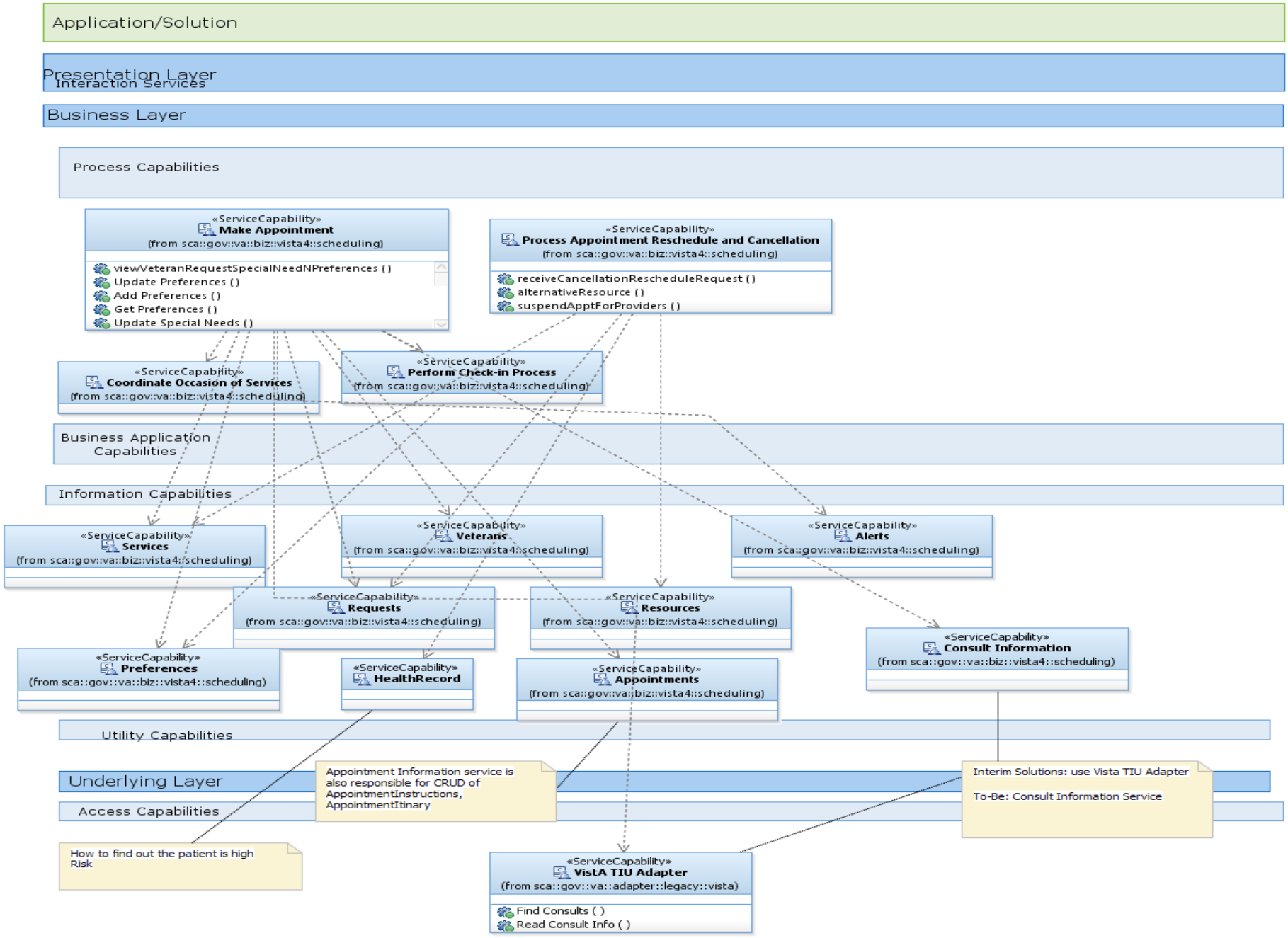
Scheduling Service Capability Views

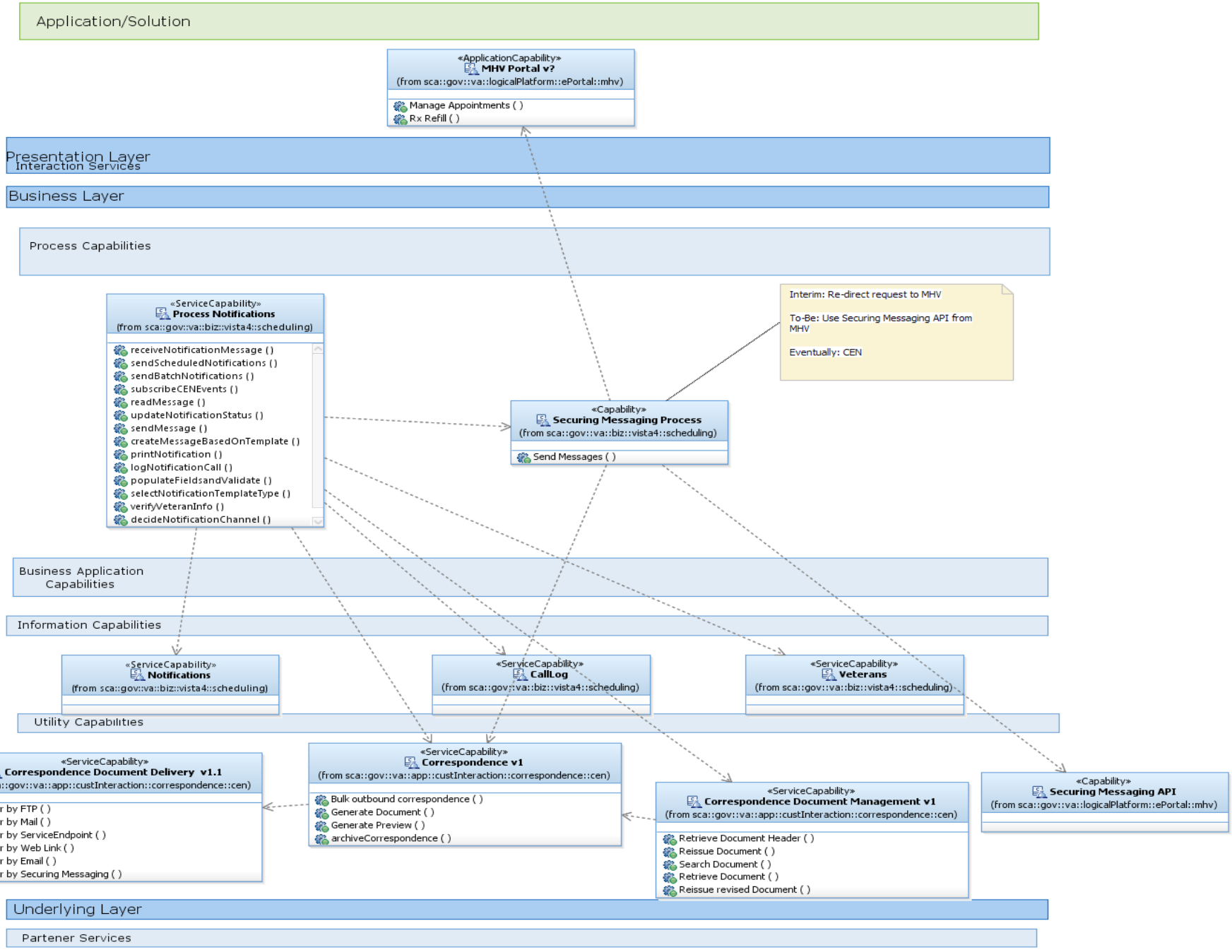
- The next few slides show the core Service Capabilities for Scheduling.

Appointment Management Capability

The next two slides show:

- The interactions of ‘Make Appointment’ Process Service Capability and the dependent information services.
- The interactions of ‘Process Notifications’ Process Service Capability and the dependent information services.

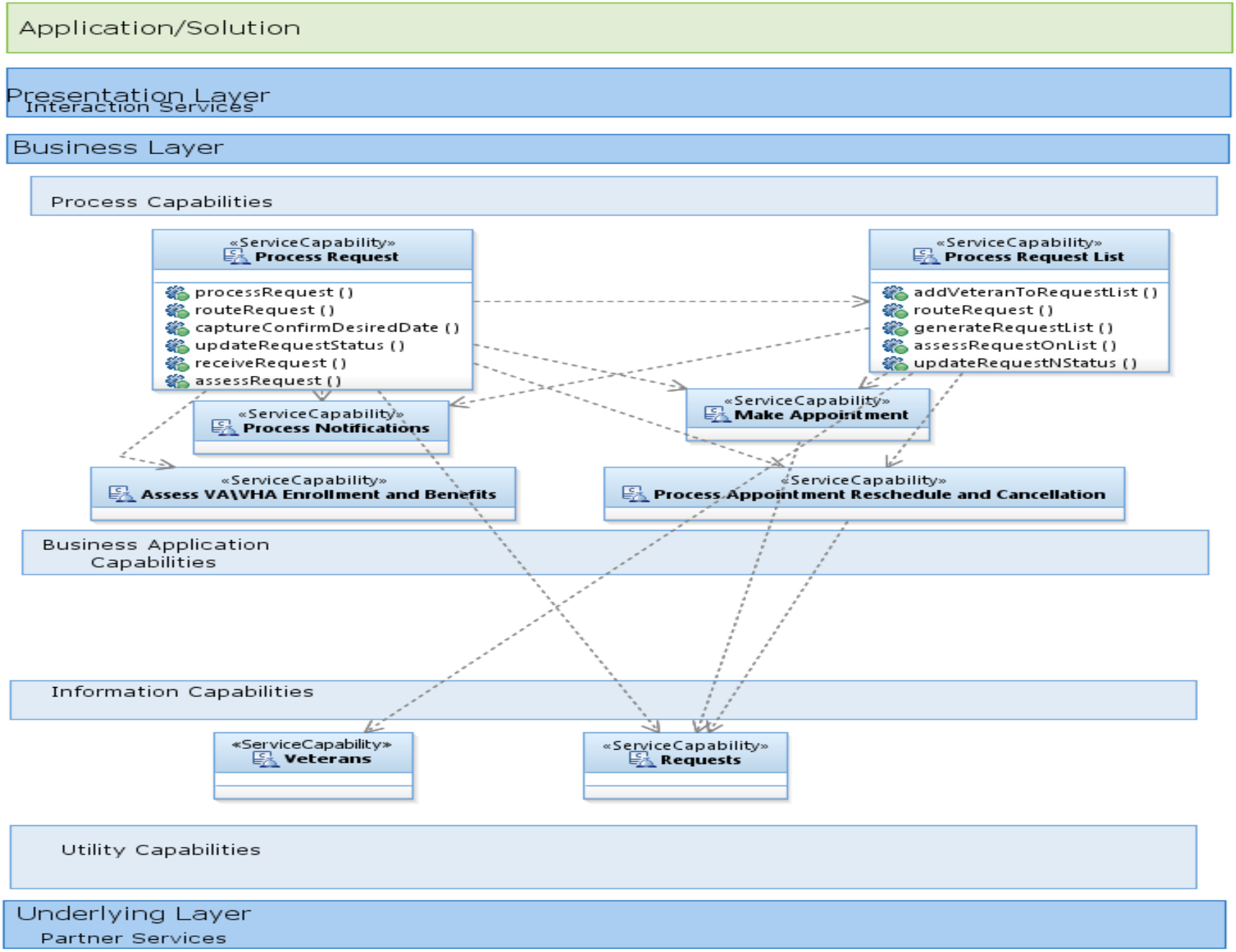

Application/Solution
Presentation Layer
Interaction Services
Business Layer
Process Capabilities
«ServiceCapability»
Make Appointment
(from sca::gov::va::biz::vista4::scheduling)
viewVeteranRequestSpecialNeedNPreferences ( )
Update Preferences ( )
Add Preferences ( )
Get Preferences ( )
Update Special Needs ( )
«ServiceCapability»
Process Appointment Reschedule and Cancellation
(from sca::gov::va::biz::vista4::scheduling)
receiveCancellationRescheduleRequest ( )
alternativeResource ( )
suspendApptForProviders ( )
«ServiceCapability»
Coordinate Occasion of Services
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Perform Check-in Process
(from sca::gov::va::biz::vista4::scheduling)
Business Application Capabilities
Information Capabilities
«ServiceCapability»
Services
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Veteranis
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Alerts
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Requests
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Resources
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Consult Information
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Preferences
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
HealthRecord
«ServiceCapability»
Appointments
(from sca::gov::va::biz::vista4::scheduling)
Utility Capabilities
Underlying Layer
Access Capabilities
Appointment Information service is also responsible for CRUD of AppointmentInstructions, AppointmentItinary
Interim Solutions: use Vista TIU Adapter
To-Be: Consult Information Service
How to find out the patient is high Risk
«ServiceCapability»
VistA TIU Adapter
(from sca::gov::va::adapter::legacy::vista)
Find Consults ( )
Read Consult Info ( )


Application/Solution
«ApplicationCapability»
MHV Portal v?
(from sca::gov::va::logicalPlatform::ePortal::mhv)
Manage Appointments ( )
Rx Refill ( )
Presentation Layer
Interaction Services
Business Layer
Process Capabilities
«ServiceCapability»
Process Notifications
(from sca::gov::va::biz::vista4::scheduling)
receiveNotificationMessage ( )
sendScheduledNotifications ( )
sendBatchNotifications ( )
subscribeCENEvents ( )
readMessage ( )
updateNotificationStatus ( )
sendMessage ( )
createMessageBasedOnTemplate ( )
printNotification ( )
logNotificationCall ( )
populateFieldsandValidate ( )
selectNotificationTemplateType ( )
verifyVeteranInfo ( )
decideNotificationChannel ( )
Interim: Re-direct request to MHV
To-Be: Use Securing Messaging API from MHV
Eventually: CEN
«Capability»
Securing Messaging Process
(from sca::gov::va::biz::vista4::scheduling)
Send Messages ( )
Business Application Capabilities
Information Capabilities
«ServiceCapability»
Notifications
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
CallLog
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Veterans
(from sca::gov::va::biz::vista4::scheduling)
Utility Capabilities
«ServiceCapability»
Correspondence Document Delivery v1.1
(from sca::gov::va::app::custInteraction::correspondence::cen)
Deliver by FTP ( )
Deliver by Mail ( )
Deliver by ServiceEndpoint ( )
Deliver by Web Link ( )
Deliver by Email ( )
Deliver by Securing Messaging ( )
«ServiceCapability»
Correspondence v1
(from sca::gov::va::app::custInteraction::correspondence::cen)
Bulk outbound correspondence ( )
Generate Document ( )
Generate Preview ( )
archiveCorrespondence ( )
«ServiceCapability»
Correspondence Document Management v1
(from sca::gov::va::app::custInteraction::correspondence::cen)
Retrieve Document Header ( )
Reissue Document ( )
Search Document ( )
Retrieve Document ( )
Reissue revised Document ( )
«Capability»
Securing Messaging API
(from sca::gov::va::logicalPlatform::ePortal::mhv)
Underlying Layer
Partener Services

Request Management

The next slide shows:

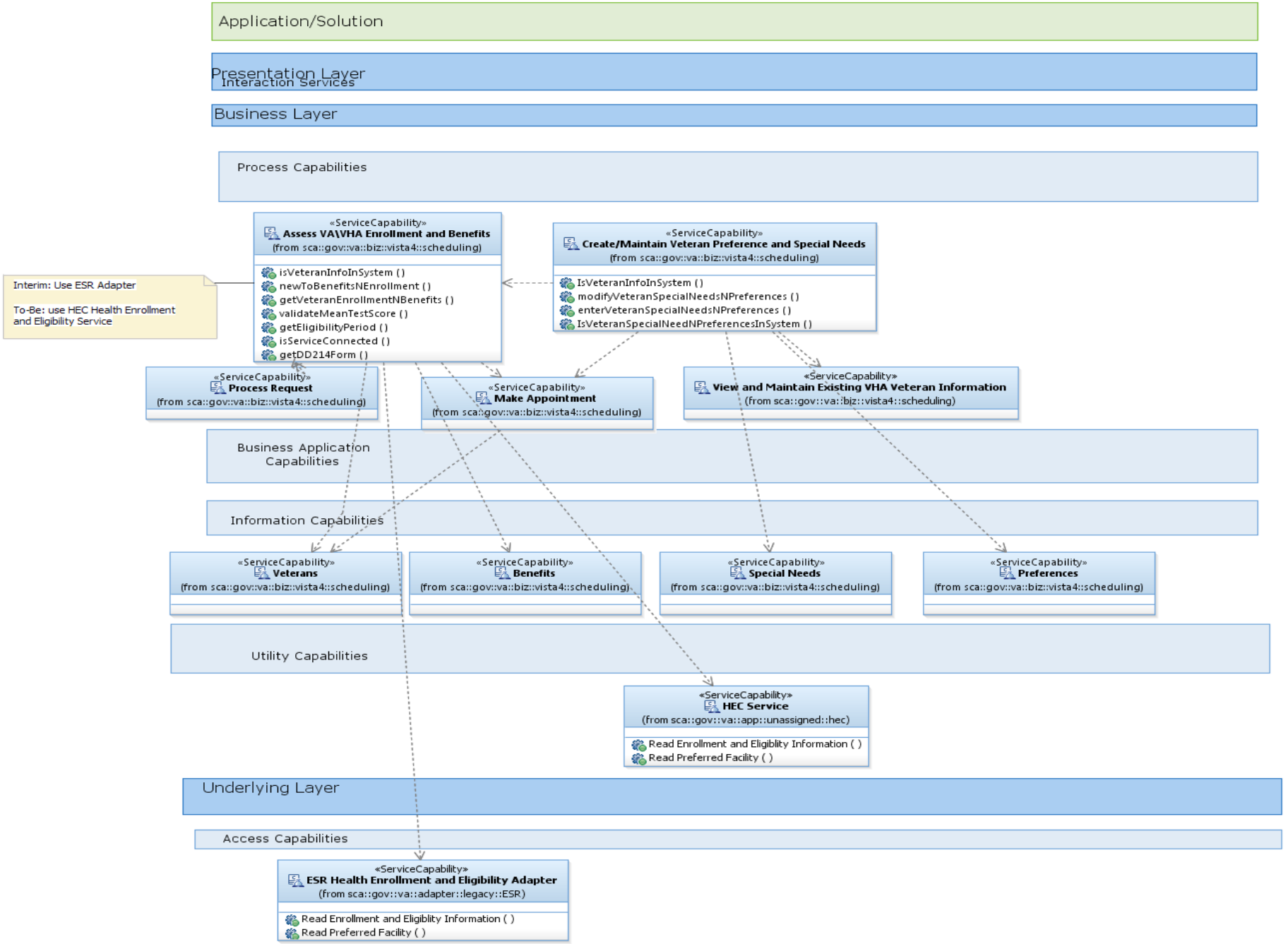
- The interactions of ‘Process Request’ Process Service Capability and the dependent information services.
- The interactions of ‘Process Request List’ Process Service Capability and the dependent information services.


Application/Solution
Presentation Layer
Interaction Services
Business Layer
Process Capabilities
«ServiceCapability»
Process Request
processRequest ()
routeRequest ()
captureConfirmDesiredDate ()
updateRequestStatus ()
receiveRequest ()
assessRequest ()
«ServiceCapability»
Process Request List
addVeteranToRequestList ()
routeRequest ()
generateRequestList ()
assessRequestOnList ()
updateRequestNStatus ()
«ServiceCapability»
Process Notifications
«ServiceCapability»
Make Appointment
«ServiceCapability»
Assess VA\VHA Enrollment and Benefits
«ServiceCapability»
Process Appointment Reschedule and Cancellation
Business Application Capabilities
Information Capabilities
«ServiceCapability»
Veterans
«ServiceCapability»
Requests
Utility Capabilities
Underlying Layer
Partner Services

Veteran Information Management

The next slide shows:

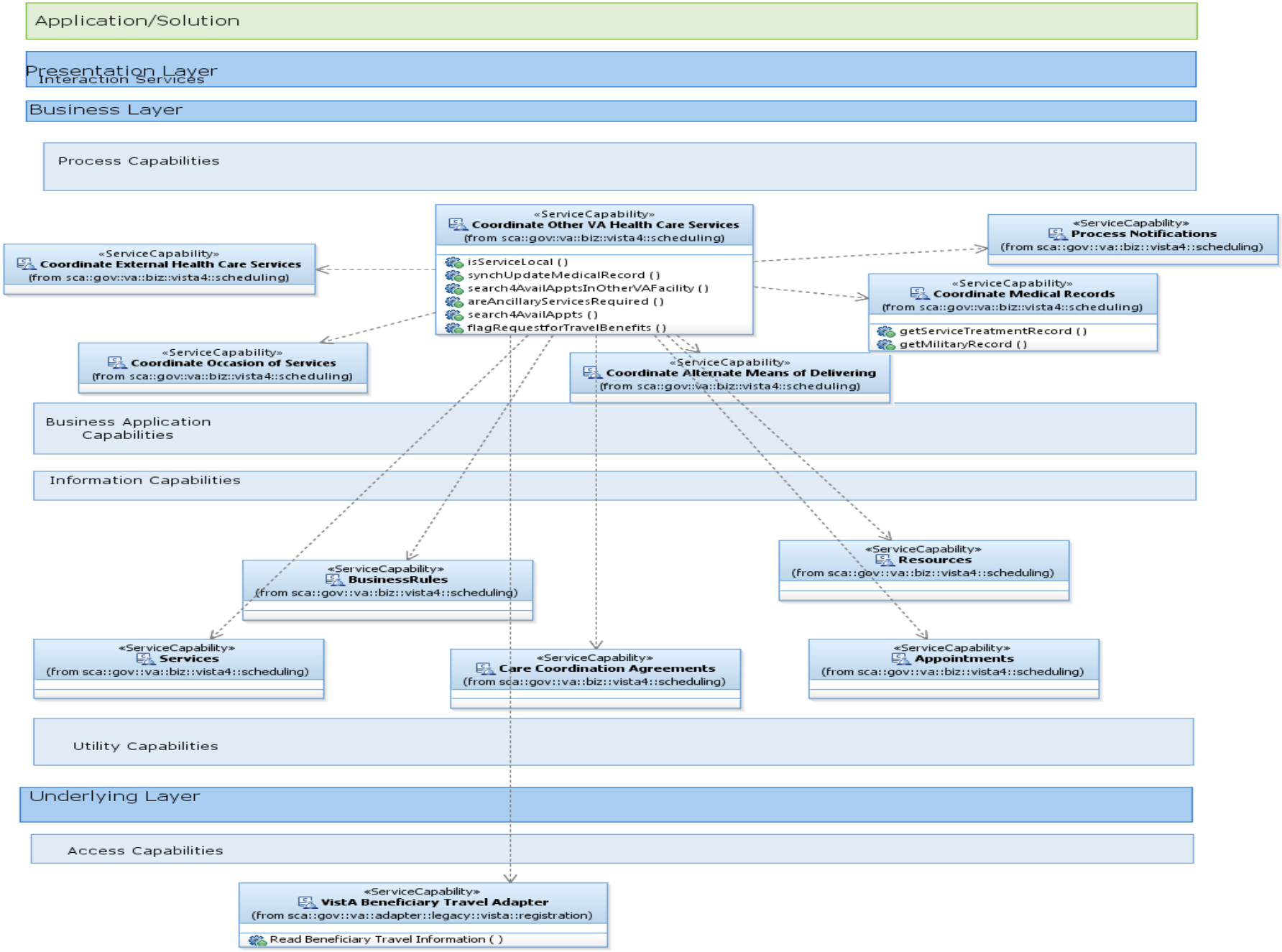
- The interactions of Manage Veteran Information Processes Service Capability and the dependent information services.


Application/Solution
Presentation Layer
Interaction Services
Business Layer
Process Capabilities
«ServiceCapability»
Assess VA\VHA Enrollment and Benefits
(from sca::gov::va::biz::vista4::scheduling)
isVeteranInfoInSystem ( )
newToBenefitsNEnrollment ( )
getVeteranEnrollmentNBenefits ( )
validateMeanTestScore ( )
getEligibilityPeriod ( )
isServiceConnected ( )
getDD214Form ( )
«ServiceCapability»
Create/Maintain Veteran Preference and Special Needs
(from sca::gov::va::biz::vista4::scheduling)
IsVeteranInfoInSystem ( )
modifyVeteranSpecialNeedsNPreferences ( )
enterVeteranSpecialNeedsNPreferences ( )
IsVeteranSpecialNeedNPreferencesInSystem ( )
Interim: Use ESR Adapter
To-Be: use HEC Health Enrollment and Eligibility Service
«ServiceCapability»
Process Request
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Make Appointment
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
View and Maintain Existing VHA Veteran Information
(from sca::gov::va::biz::vista4::scheduling)
Business Application Capabilities
Information Capabilities
«ServiceCapability»
Veterans
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Benefits
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Special Needs
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Preferences
(from sca::gov::va::biz::vista4::scheduling)
Utility Capabilities
«ServiceCapability»
HEC Service
(from sca::gov::va::app::unassigned::hec)
Read Enrollment and Eligiblity Information ( )
Read Preferred Facility ( )
Underlying Layer
Access Capabilities
«ServiceCapability»
ESR Health Enrollment and Eligibility Adapter
(from sca::gov::va::adapter::legacy::ESR)
Read Enrollment and Eligiblity Information ( )
Read Preferred Facility ( )

Coordinate Associated and Occasion of Service

The next four slides show:

- The Process Services of Coordination with Other VA Facilities and External Facilities and the interactions with the dependent information services.
- The Process Services of Medical Record Coordination, Ancillary Services Coordination and Alternative Means of Delivering Care. and the interactions with the dependent information services.

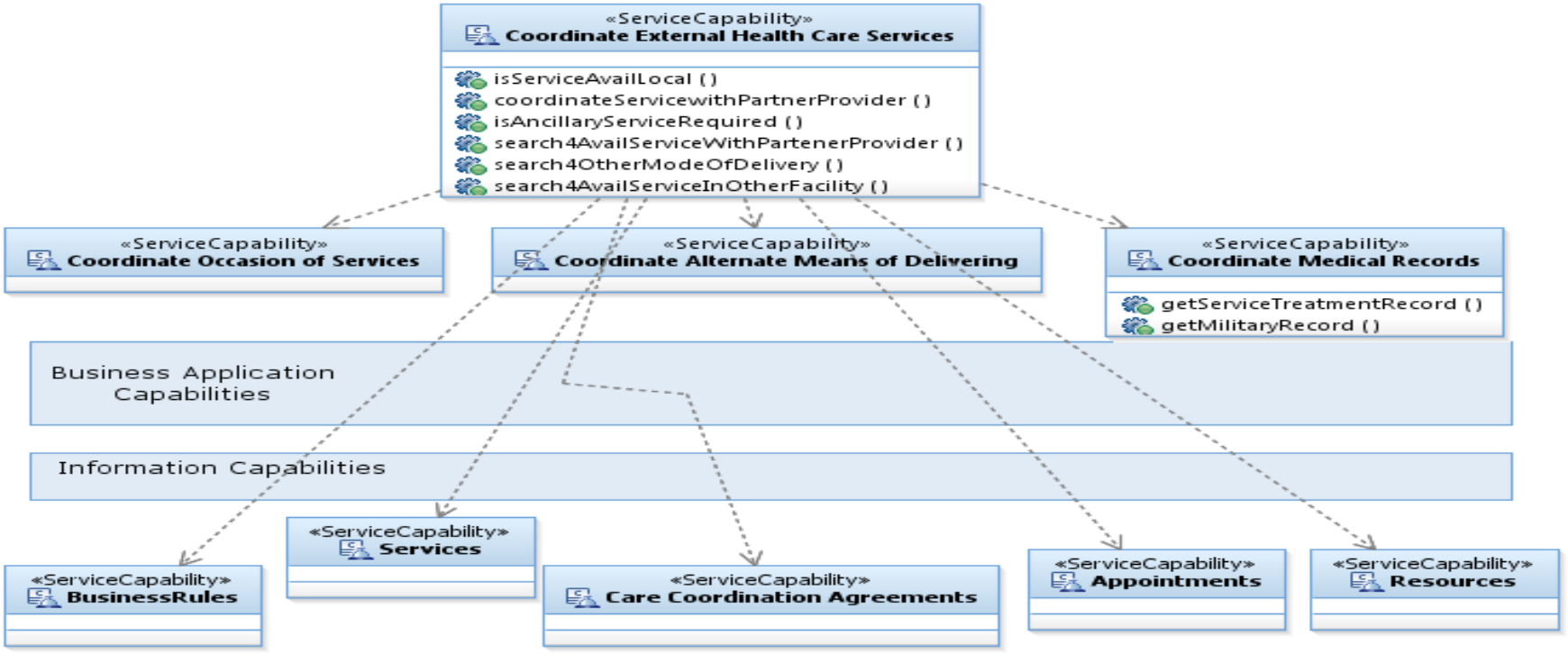

Application/Solution
Presentation Layer
Interaction Services
Business Layer
Process Capabilities
«ServiceCapability»
Coordinate Other VA Health Care Services
(from sca::gov::va::biz::vista4::scheduling)
isServiceLocal ( )
synchUpdateMedicalRecord ( )
search4AvailApptsInOtherVAFacility ( )
areAncillaryServicesRequired ( )
search4AvailAppts ( )
flagRequestforTravelBenefits ( )
«ServiceCapability»
Coordinate External Health Care Services
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Process Notifications
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Coordinate Medical Records
(from sca::gov::va::biz::vista4::scheduling)
getServiceTreatmentRecord ( )
getMilitaryRecord ( )
«ServiceCapability»
Coordinate Occasion of Services
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Coordinate Alternate Means of Delivering
(from sca::gov::va::biz::vista4::scheduling)
Business Application Capabilities
Information Capabilities
«ServiceCapability»
BusinessRules
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Resources
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Services
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Care Coordination Agreements
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Appointments
(from sca::gov::va::biz::vista4::scheduling)
Utility Capabilities
Underlying Layer
Access Capabilities
«ServiceCapability»
VistA Beneficiary Travel Adapter
(from sca::gov::va::adapter::legacy::vista::registration)
Read Beneficiary Travel Information ( )

Application/Solution

Presentation Layer
Interaction Services

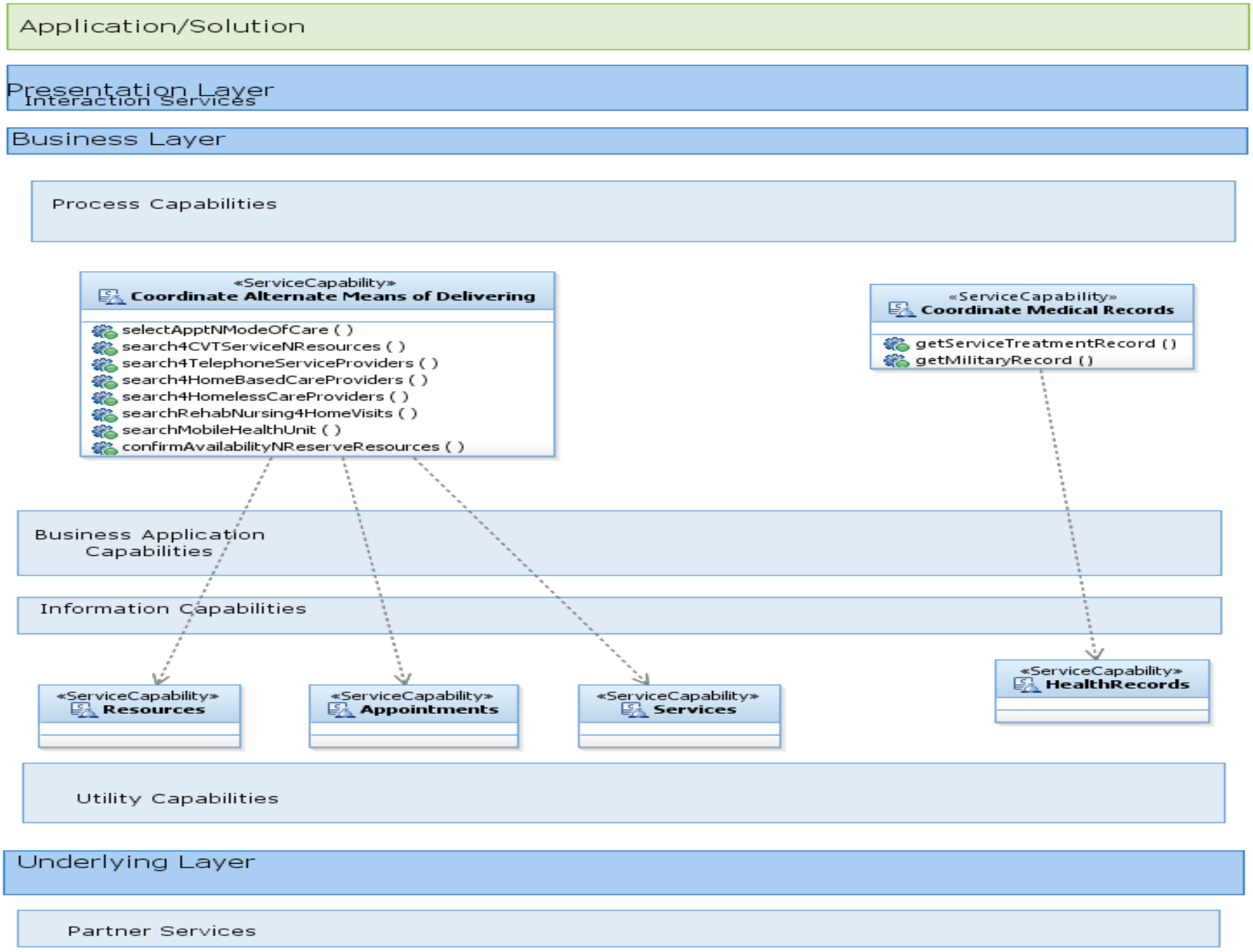
Business Layer

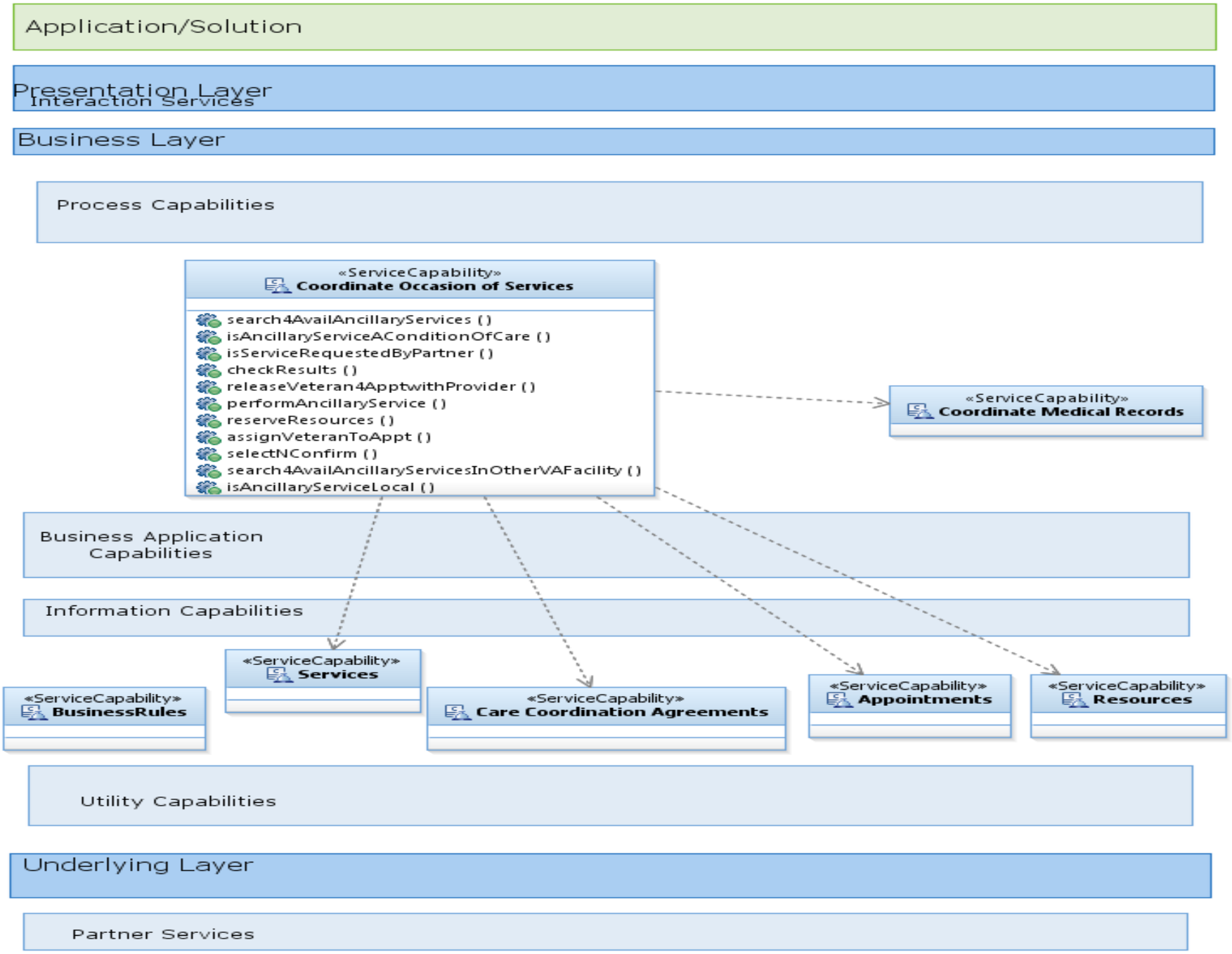
Process Capabilities



Underlying Layer

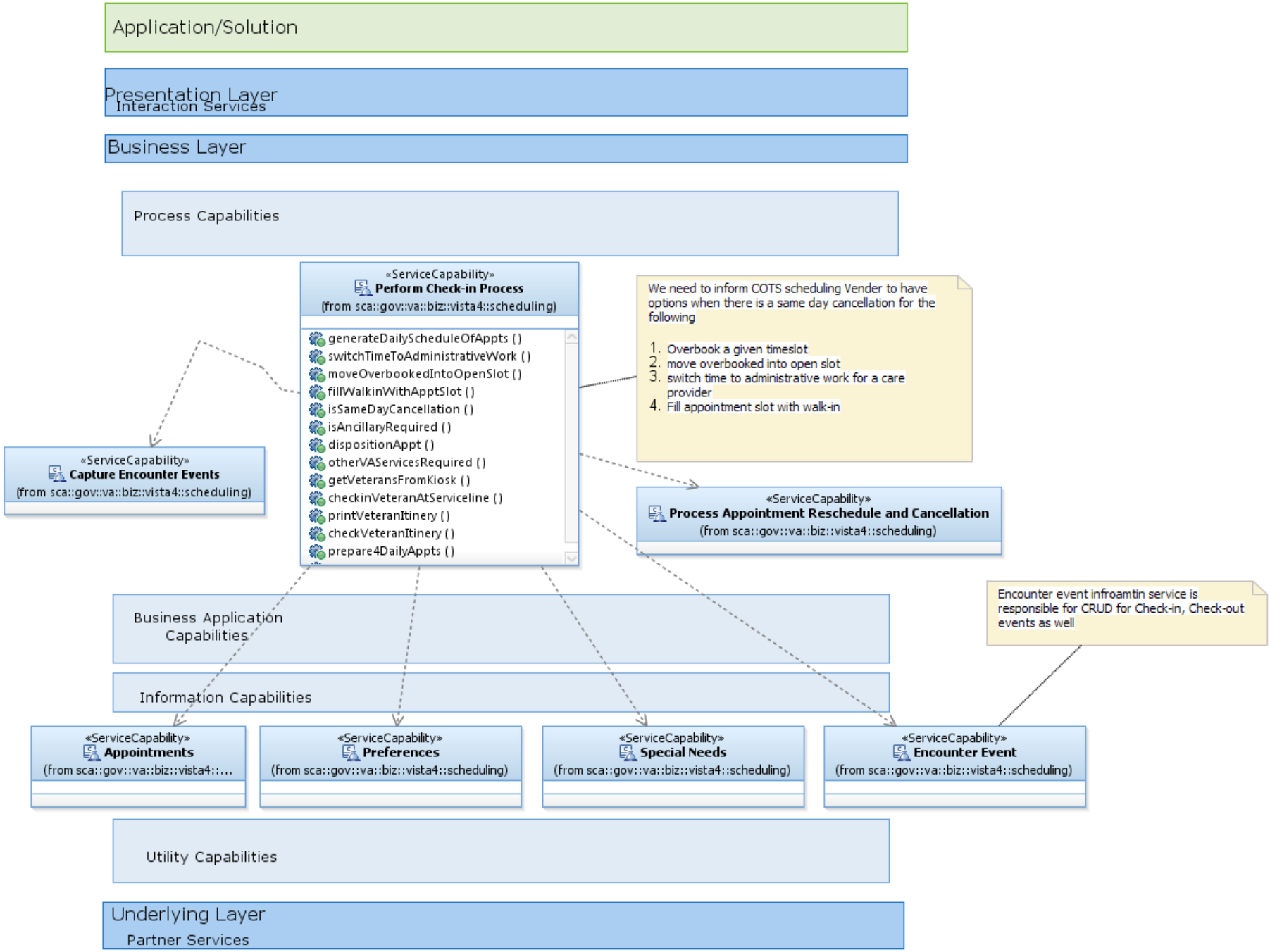
Partner Services

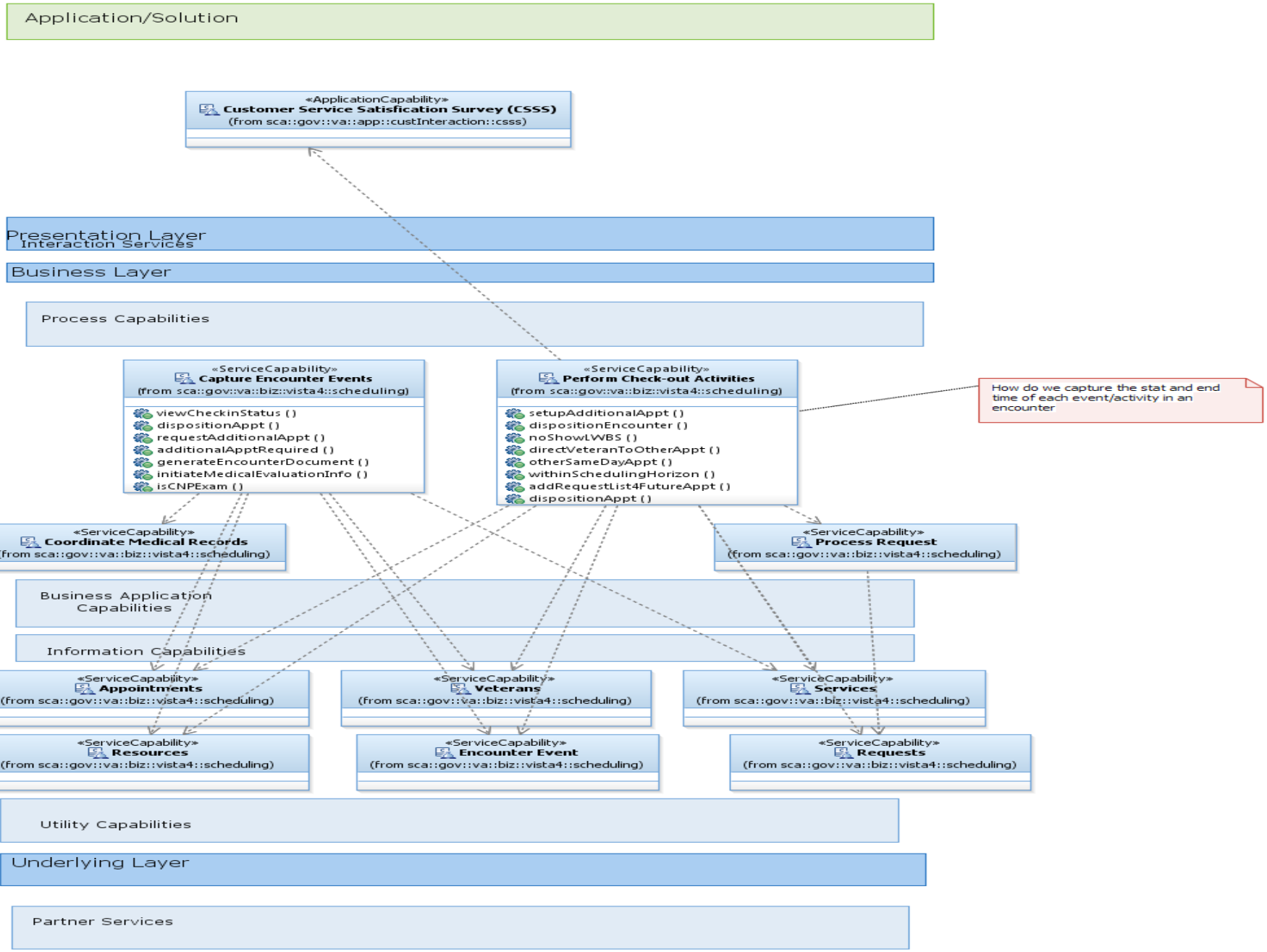

Application/Solution
Presentation Layer
Interaction Services
Business Layer
Process Capabilities
«ServiceCapability»
Coordinate Alternate Means of Delivering
selectApptNModeOfCare ( )
search4CVTServiceNResources ( )
search4TelephoneServiceProviders ( )
search4HomeBasedCareProviders ( )
search4HomelessCareProviders ( )
searchRehabNursing4HomeVisits ( )
searchMobileHealthUnit ( )
confirmAvailabilityNReserveResources ( )
«ServiceCapability»
Coordinate Medical Records
getServiceTreatmentRecord ( )
getMilitaryRecord ( )
Business Application Capabilities
Information Capabilities
«ServiceCapability»
Resources
«ServiceCapability»
Appointments
«ServiceCapability»
Services
«ServiceCapability»
HealthRecords
Utility Capabilities
Underlying Layer
Partner Services


Application/Solution
Presentation Layer
Interaction Services
Business Layer
Process Capabilities
«ServiceCapability»
Coordinate Occasion of Services
search4AvailAncillaryServices ()
isAncillaryServiceAConditionOfCare ()
isServiceRequestedByPartner ()
checkResults ()
releaseVeteran4ApptwithProvider ()
performAncillaryService ()
reserveResources ()
assignVeteranToAppt ()
selectNConfirm ()
search4AvailAncillaryServicesInOtherVAFacility ()
isAncillaryServiceLocal ()
«ServiceCapability»
Coordinate Medical Records
Business Application Capabilities
Information Capabilities
«ServiceCapability»
Services
«ServiceCapability»
BusinessRules
«ServiceCapability»
Care Coordination Agreements
«ServiceCapability»
Appointments
«ServiceCapability»
Resources
Utility Capabilities
Underlying Layer
Partner Services

Encounter of Care Management

The next two slides show the Service Capability for Encounter of Care Management.

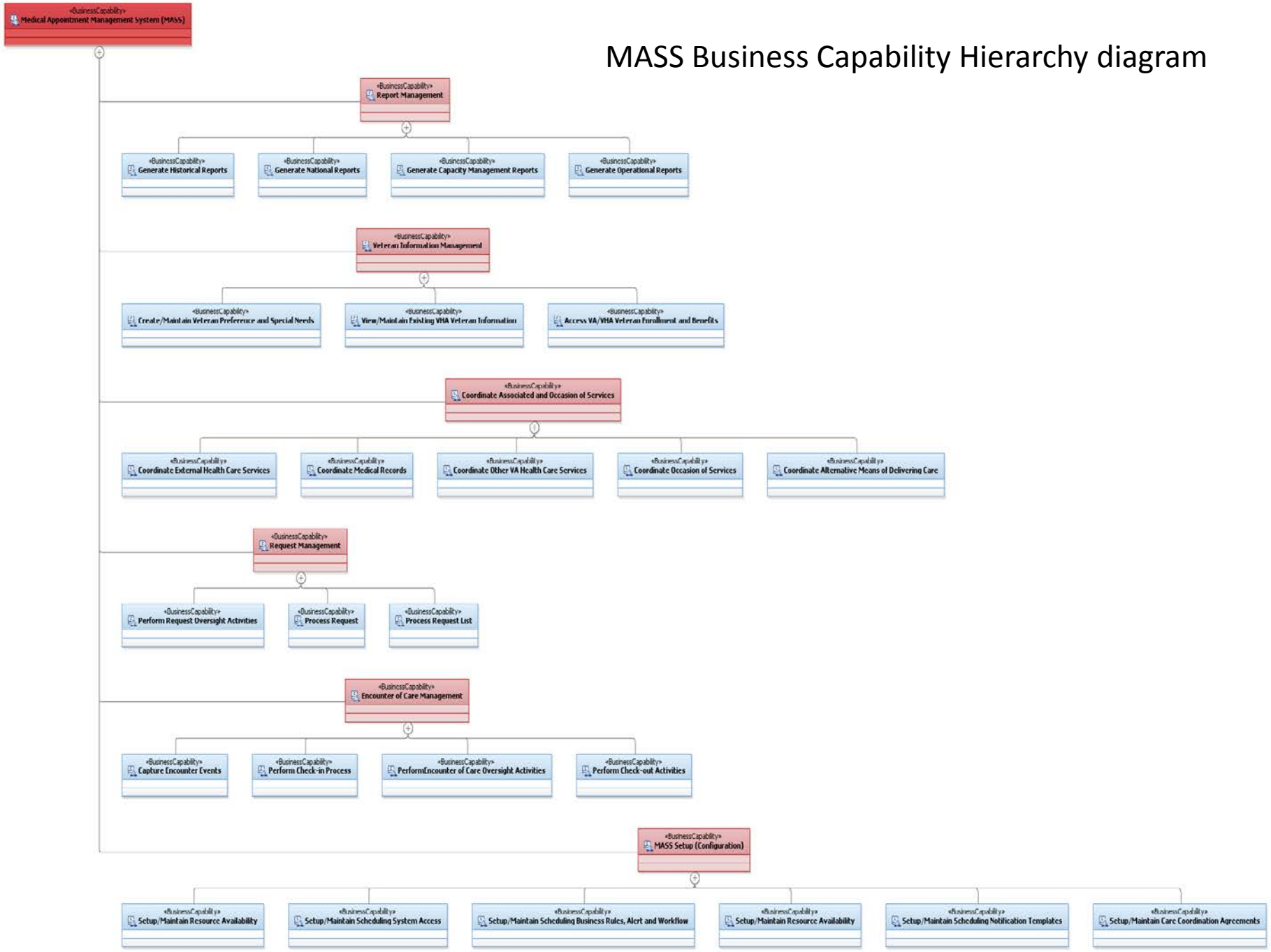

Application/Solution
Presentation Layer
Interaction Services
Business Layer
Process Capabilities
«ServiceCapability»
Perform Check-in Process
(from sca::gov::va::biz::vista4::scheduling)
generateDailyScheduleOfAppts ()
switchTimeToAdministrativeWork ()
moveOverbookedIntoOpenSlot ()
fillWalkinWithApptSlot ()
isSameDayCancellation ()
isAncillaryRequired ()
dispositionAppt ()
otherVAServicesRequired ()
getVeteransFromKiosk ()
checkinVeteranAtServiceline ()
printVeteranItinery ()
checkVeteranItinery ()
prepare4DailyAppts ()
We need to inform COTS scheduling Vender to have options when there is a same day cancellation for the following
1. Overbook a given timeslot
2. move overbooked into open slot
3. switch time to administrative work for a care provider
4. Fill appointment slot with walk-in
«ServiceCapability»
Capture Encounter Events
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Process Appointment Reschedule and Cancellation
(from sca::gov::va::biz::vista4::scheduling)
Business Application Capabilities
Information Capabilities
Encounter event infroamtin service is responsible for CRUD for Check-in, Check-out events as well
«ServiceCapability»
Appointments
(from sca::gov::va::biz::vista4::...
«ServiceCapability»
Preferences
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Special Needs
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Encounter Event
(from sca::gov::va::biz::vista4::scheduling)
Utility Capabilities
Underlying Layer
Partner Services


Application/Solution
«ApplicationCapability»
Customer Service Satisfaction Survey (CSSS)
(from sca::gov::va::app::custInteraction::csss)
Presentation Layer
Interaction Services
Business Layer
Process Capabilities
«ServiceCapability»
Capture Encounter Events
(from sca::gov::va::biz::vista4::scheduling)
viewCheckinStatus ()
dispositionAppt ()
requestAdditionalAppt ()
additionalApptRequired ()
generateEncounterDocument ()
initiateMedicalEvaluationInfo ()
isCNPExam ()
«ServiceCapability»
Perform Check-out Activities
(from sca::gov::va::biz::vista4::scheduling)
setupAdditionalAppt ()
dispositionEncounter ()
noShowLWBS ()
directVeteranToOtherAppt ()
otherSameDayAppt ()
withinSchedulingHorizon ()
addRequestList4FutureAppt ()
dispositionAppt ()
How do we capture the stat and end time of each event/activity in an encounter
«ServiceCapability»
Coordinate Medical Records
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Process Request
(from sca::gov::va::biz::vista4::scheduling)
Business Application Capabilities
Information Capabilities
«ServiceCapability»
Appointments
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Veterans
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Services
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Resources
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Encounter Event
(from sca::gov::va::biz::vista4::scheduling)
«ServiceCapability»
Requests
(from sca::gov::va::biz::vista4::scheduling)
Utility Capabilities
Underlying Layer
Partner Services

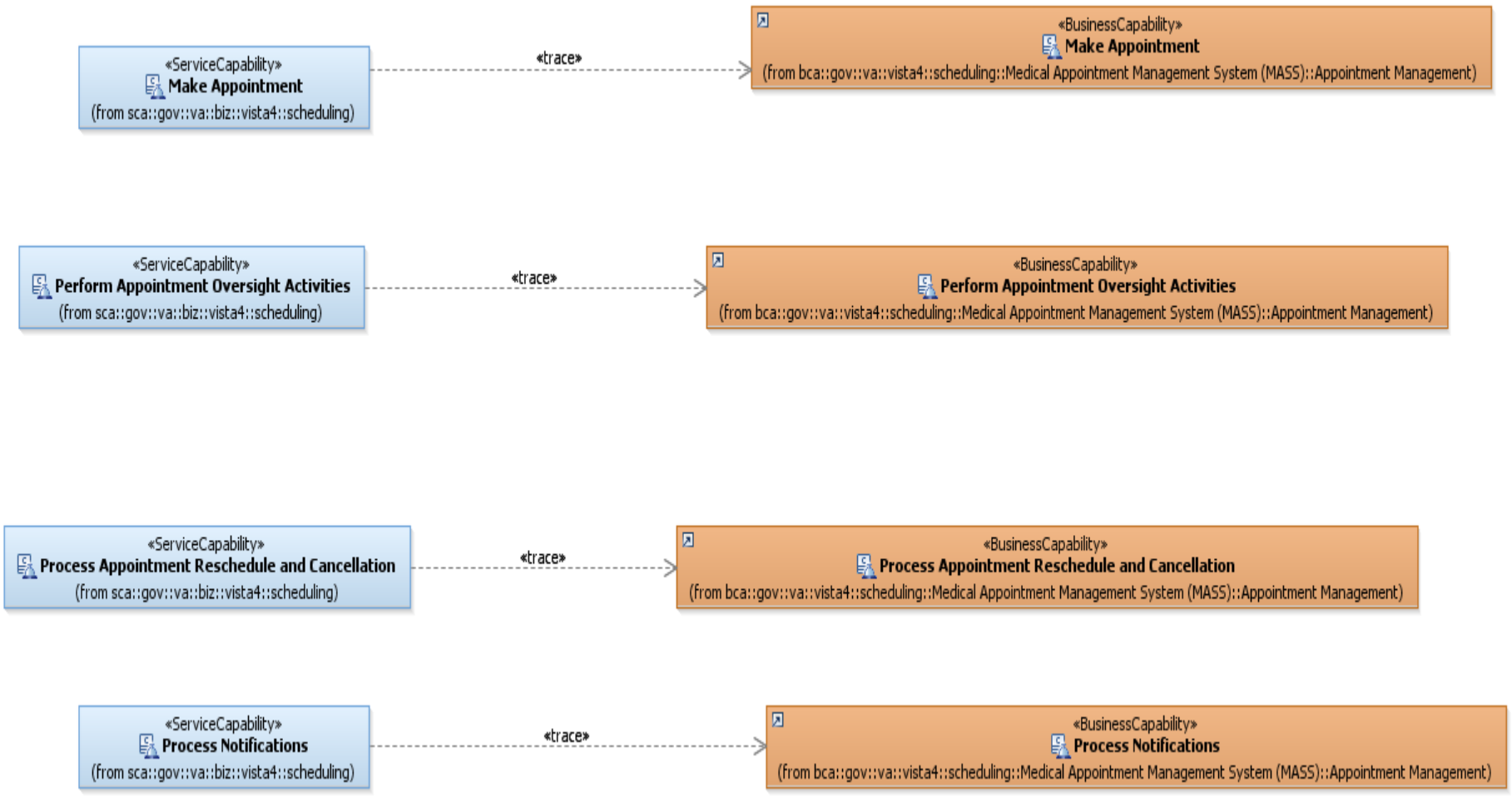
Traceability

The next few slides show the traceability back to the scheduling system or individual business capability.

MASS Business Capability Hierarchy diagram



Appointment Management sub-business capability traceability



Reference Material

- Business Function Framework
- Design patterns contained in “Design Patterns for VistA Evolution: COTS/GOTS Application Integration” presentation
- Enterprise Shared Services (ESS) Service-oriented architecture (SOA) Website
- ESS Working Group Resources and Presentations
- Enterprise Technical Architecture (ETA) Compliance Checklist
- Health Data Repository 3.6 product architecture document
- Health Standards Profile
- Joint Interoperability Plan, Interagency Program Office
- Veterans Health Administration (VHA) Business Architecture information models and business process models
- OneVA Enterprise Architecture (EA) website
- VistA Interface Engine (VIE) Migration Plan
- VistA Evolution Program Plan
- VistA Evolution Testing and Standards Conformance Plan for Interoperability
- VistA 4 Product Roadmap
- VistA Exchange and VLER DAS Draft White Paper
- VLER documentation
- VLER Health Program Plan

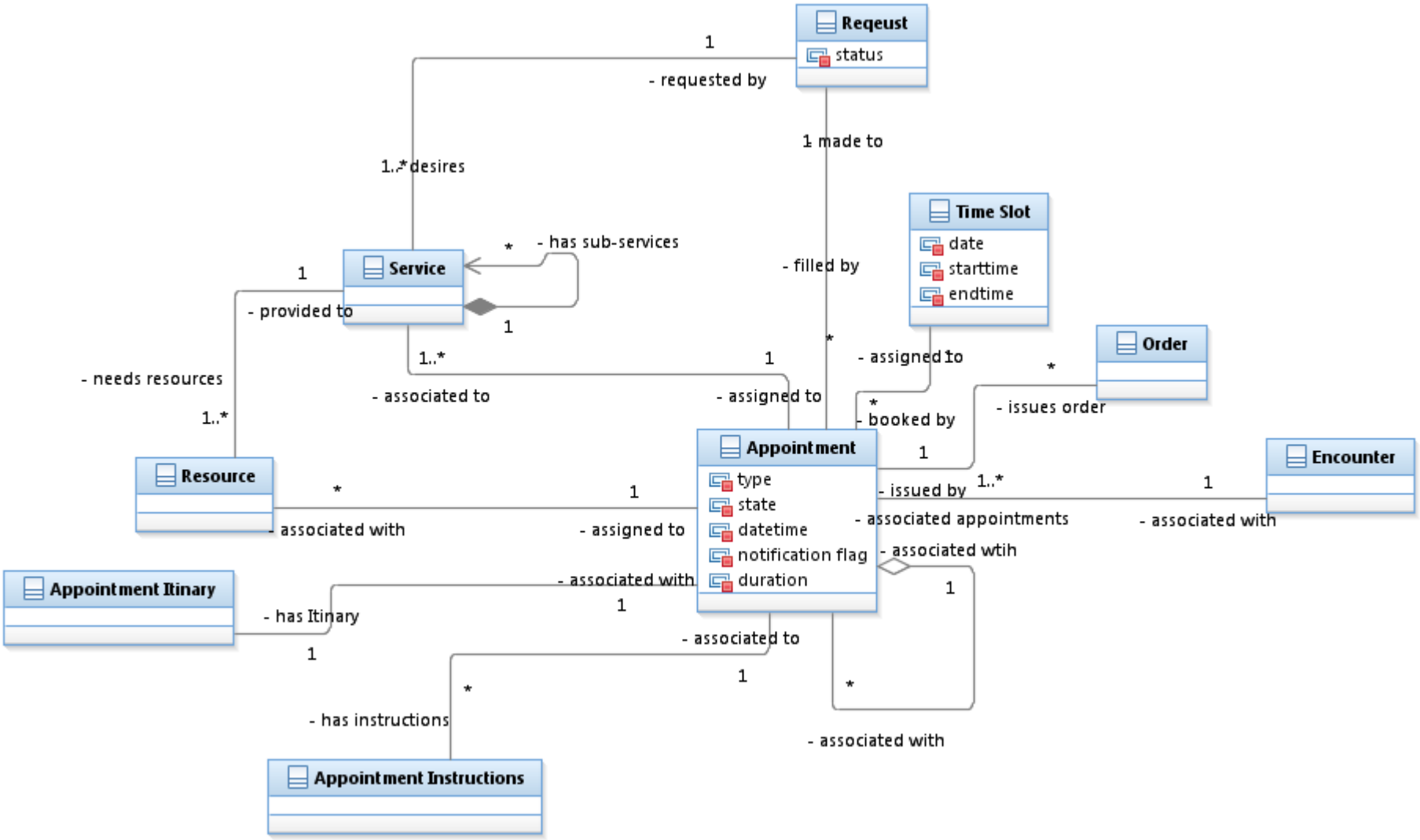
Backup Slides

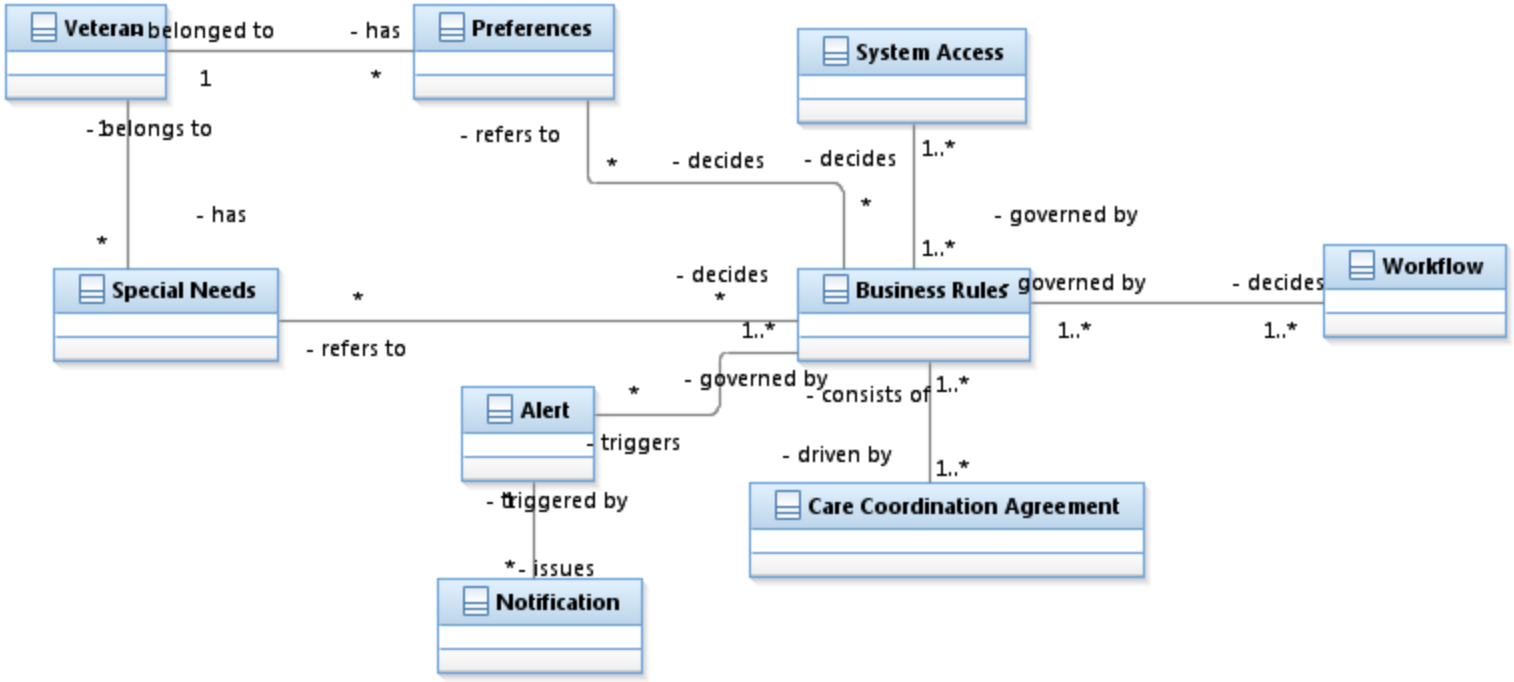
Conceptual Data and Business Models

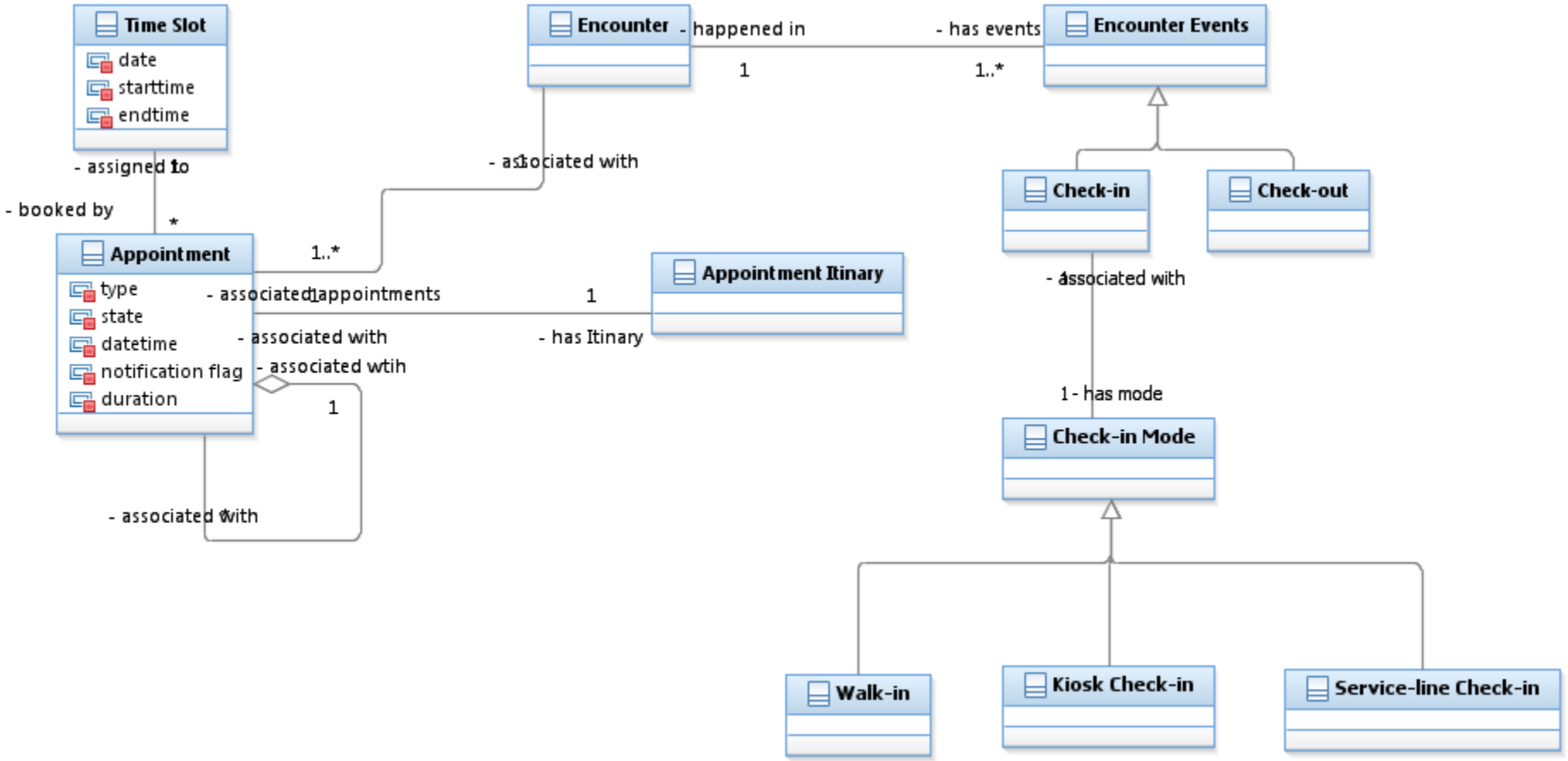
The information and business process models are derived from business process framework and BRD. The business architecture are in the process of validating the models.

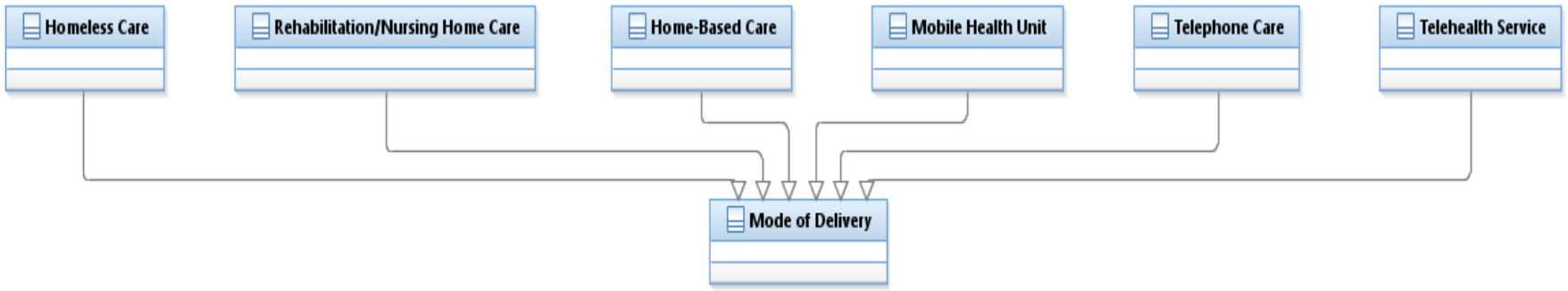
- Appointment
- Encounter
- Mode of Delivery
- Notification Template
- Notification
- Request
- Service
- User and Role
- Veteran
- Care Management
- Resource

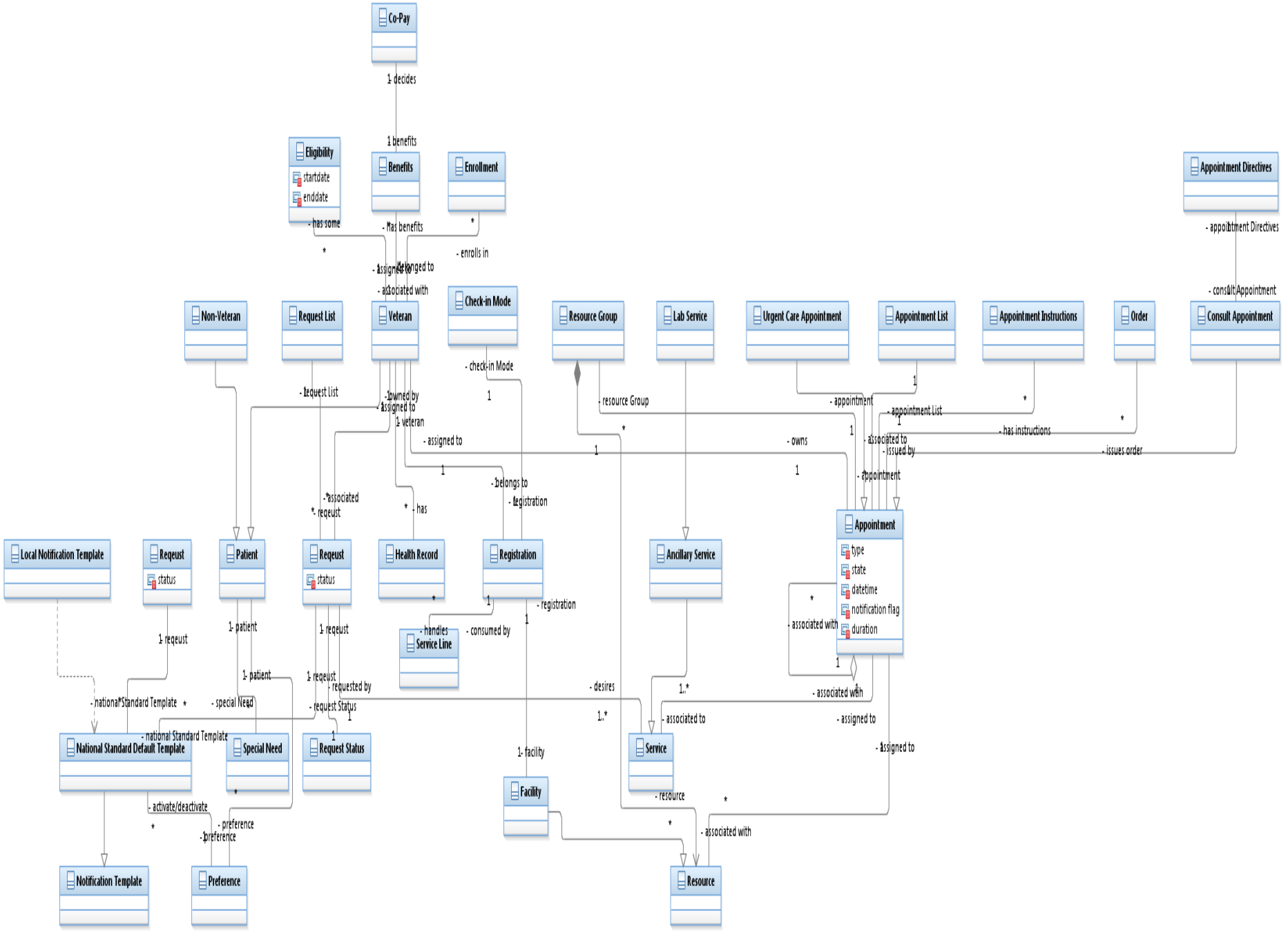
Appointment Model



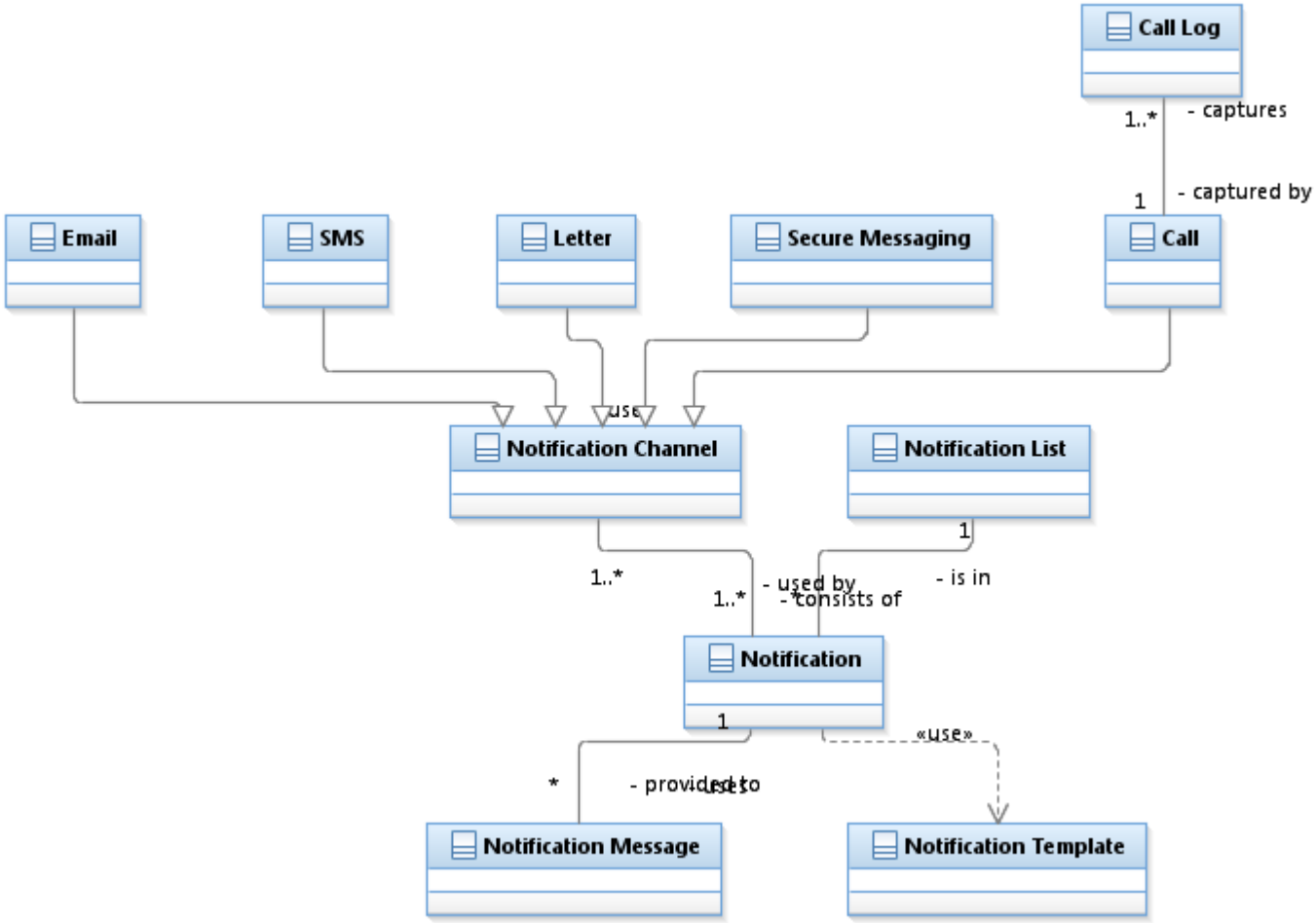

Veteran
belonged to
1
- has
*
Preferences
System Access
- belongs to
1
*
- has
- refers to
*
- decides
- decides
1..*
*
- governed by
1..*
Special Needs
*
- refers to
- decides
*
1..*
Business Rules
governed by
1..*
- decides
1..*
Workflow
- governed by
*
Alert
- triggers
- consists of
1..*
- driven by
1..*
Care Coordination Agreement
- triggered by
1
*
- issues
Notification

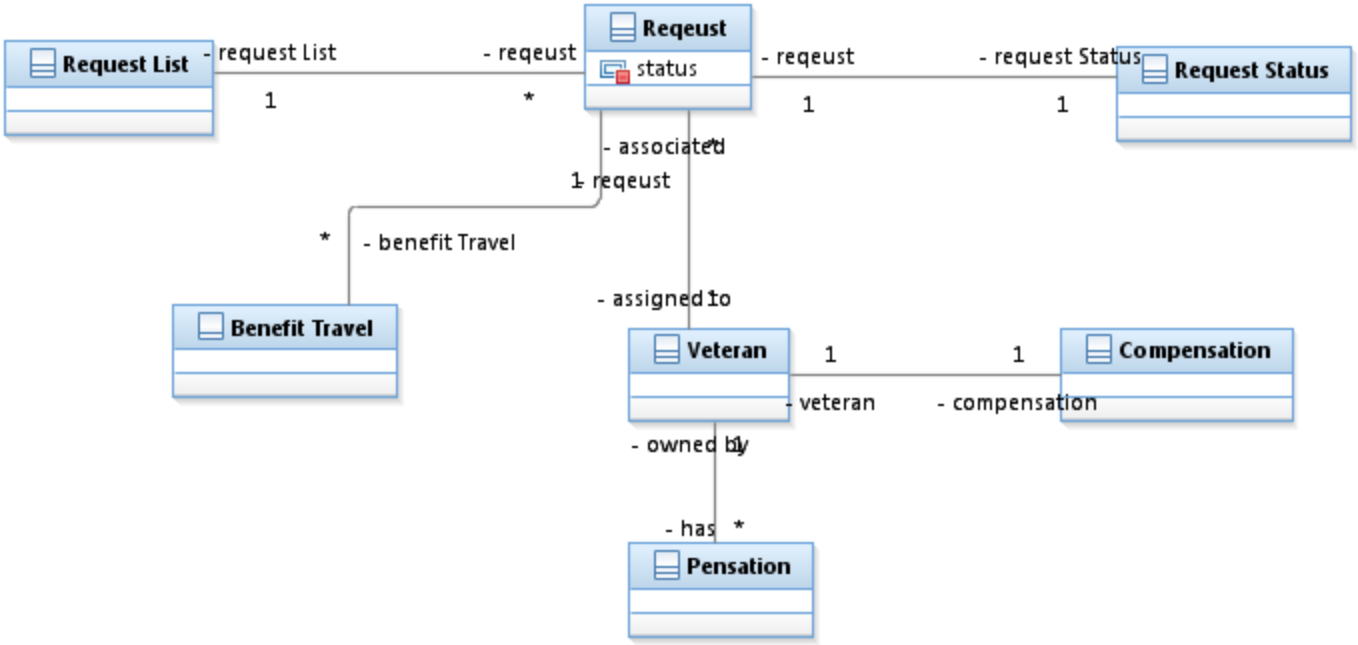

Time Slot
date
starttime
endtime
- assigned to
1
- booked by
*
Appointment
type
state
datetime
notification flag
duration
- associated with
1..*
- associated with
1
- has Itinary
Appointment Itinary
- associated with
1
- associated wtih
1
- associated with
*
Encounter
- happened in
1
- has events
1..*
Encounter Events
Check-in
Check-out
- associated with
1
1 - has mode
Check-in Mode
Walk-in
Kiosk Check-in
Service-line Check-in

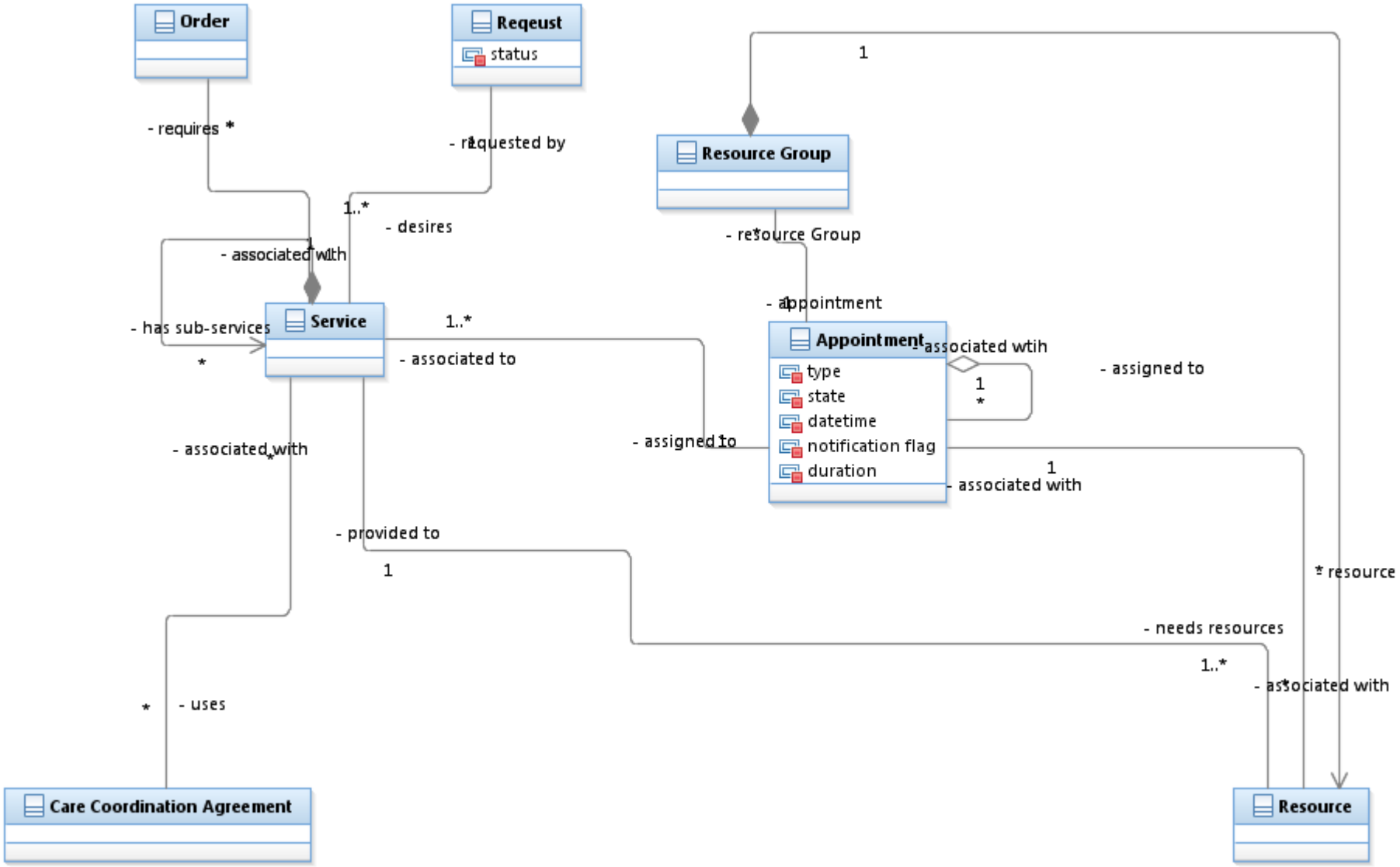

Homeless Care
Rehabilitation/Nursing Home Care
Home-Based Care
Mobile Health Unit
Telephone Care
Telehealth Service
Mode of Delivery



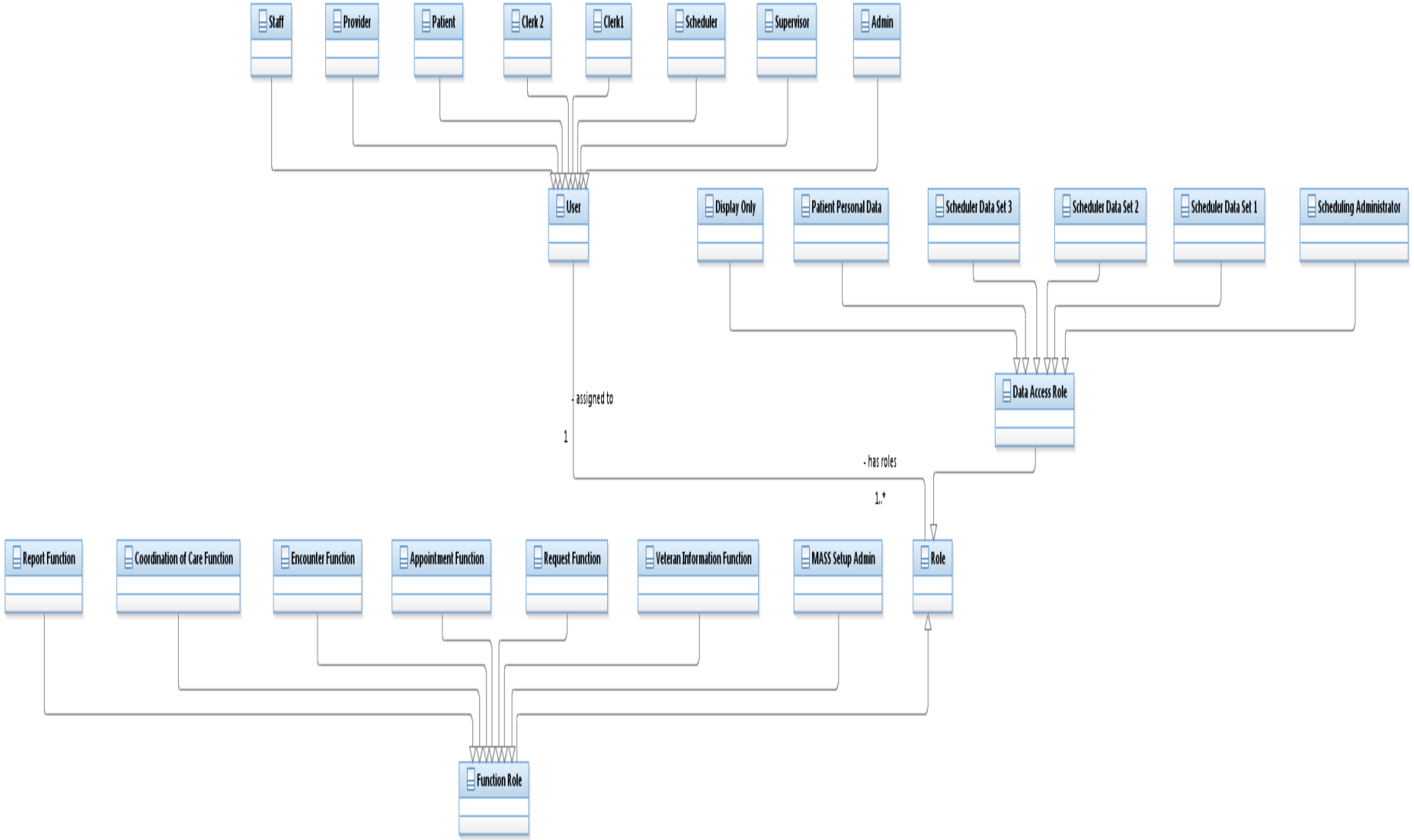
Co-Pay
1- decides
1 benefits
Eligibility
startdate
enddate
Benefits
Enrollment
Appointment Directives
- has some
- has benefits
- enrolls in
- appointment Directives
- assigned to
- belonged to
- associated with
- consult Appointment
Non-Veteran
Request List
Veteran
Check-in Mode
Resource Group
Lab Service
Urgent Care Appointment
Appointment List
Appointment Instructions
Order
Consult Appointment
- check-in Mode
- request List
- owned by
- assigned to
1- veteran
- assigned to
- resource Group
- appointment
- appointment List
- has instructions
- owns
- associated to
- issued by
- issues order
- appointment
- belongs to
- registration
- associated
- request
- has
Appointment
type
state
datetime
notification flag
duration
Local Notification Template
Reqeust
status
Patient
Reqeust
status
Health Record
Registration
Ancillary Service
- registration
- handles
- consumed by
Service Line
- associated with
1- request
1- patient
1- request
1- patient
1- request
- requested by
- desires
- associated with
- national Standard Template
- special Need
- request Status
- associated to
- assigned to
- national Standard Template
National Standard Default Template
Special Need
Request Status
1- facility
Service
- assigned to
Facility
- resource
- activate/deactivate
- preference
- preference
- associated with
Notification Template
Preference
Resource

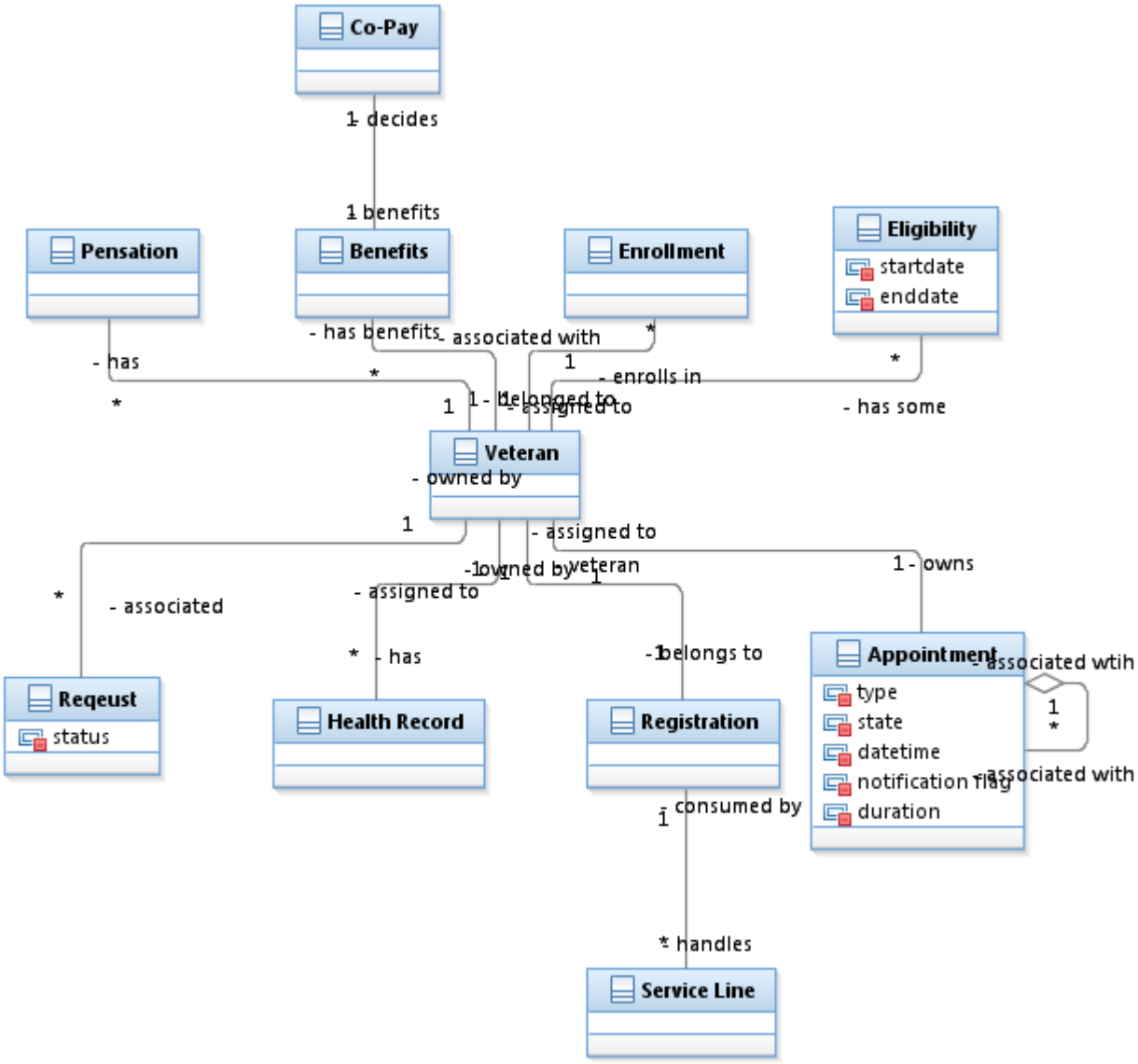

Call Log
1..*
- captures
1
- captured by
Email
SMS
Letter
Secure Messaging
Call
use
Notification Channel
Notification List
1..*
1..*
- used by
- consists of
1
- is in
Notification
1
«use»
*
- provides
uses to
Notification Message
Notification Template


Request List
- request List
1
- reqeust
*
Reqeust
status
- reqeust
1
- request Status
1
Request Status
- associated
1
- reqeust
*
- benefit Travel
Benefit Travel
- assigned to
1
Veteran
1
- veteran
1
- compensation
Compensation
- owned by
1
- has
*
Pensation

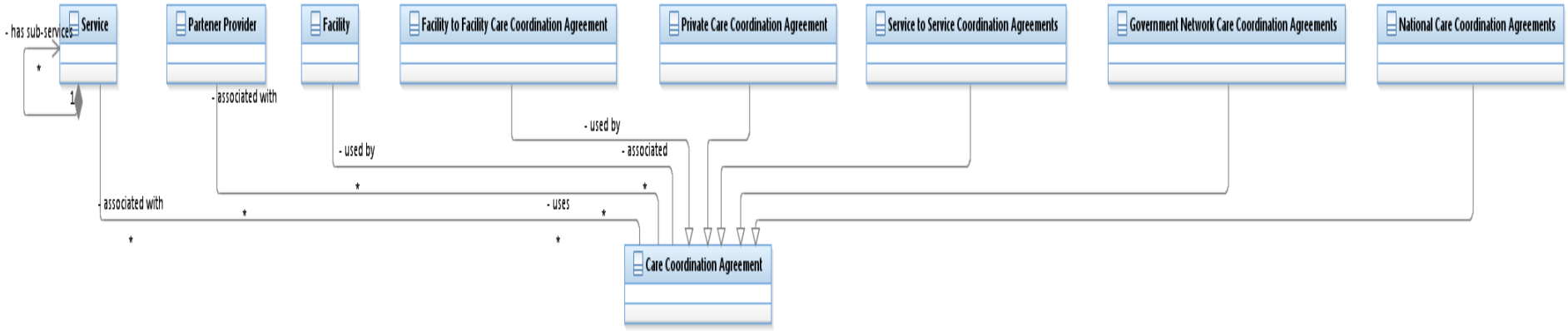


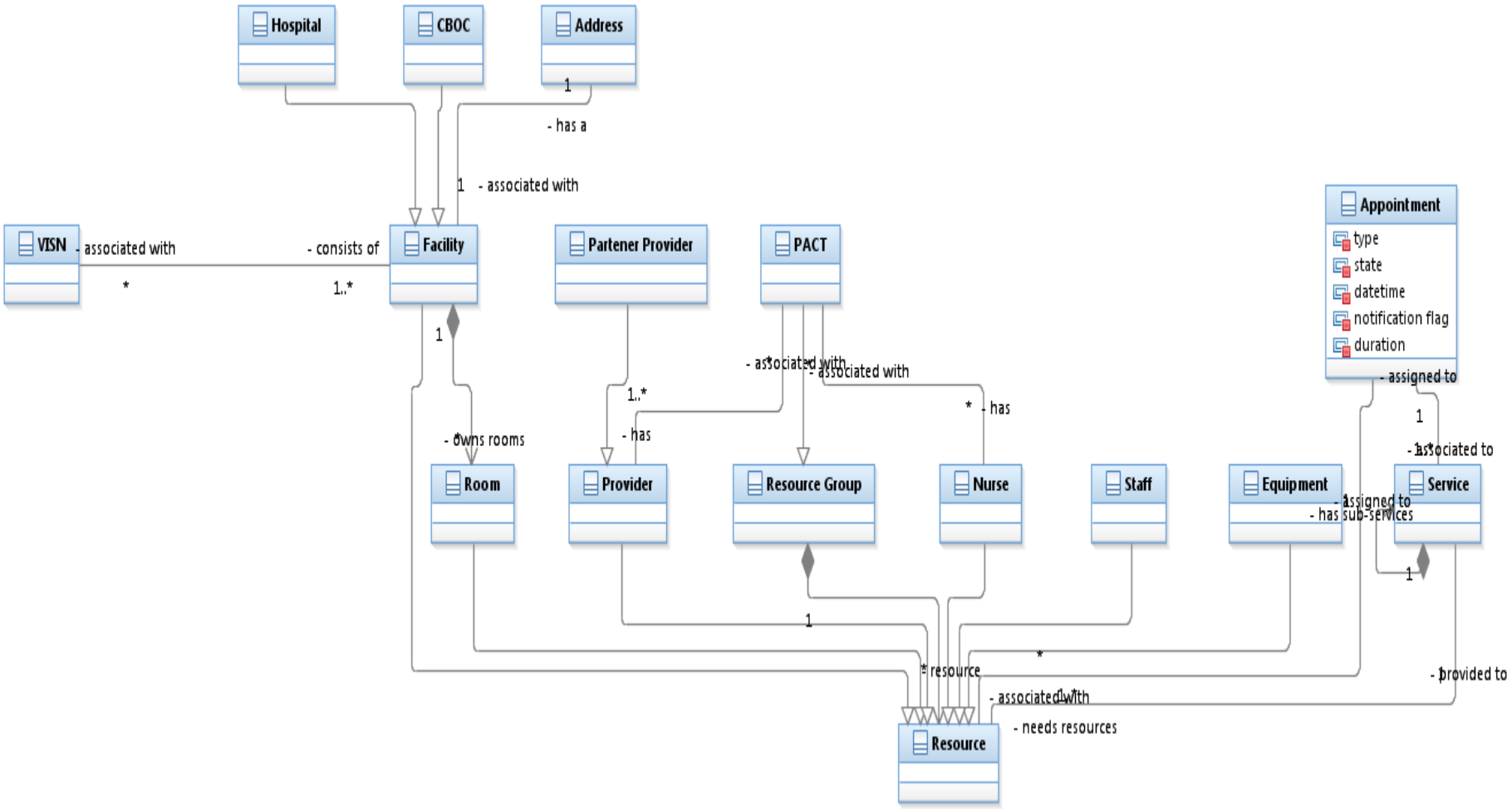
Order
Reqeust
status
Resource Group
Service
Appointment
type
state
datetime
notification flag
duration
Care Coordination Agreement
Resource
- requires *
- requested by
1..*
- desires
- associated with
- has sub-services
*
1..*
- associated to
- associated with
- provided to
1
- uses
*
- resource Group
- appointment
- associated wtih
1
*
- assigned to
- assigned to
1
- associated with
* resource
- needs resources
1..*
- associated with


Staff
Provider
Patient
Clerk 2
Clerk1
Scheduler
Supervisor
Admin
User
Display Only
Patient Personal Data
Scheduler Data Set 3
Scheduler Data Set 2
Scheduler Data Set 1
Scheduling Administrator
Data Access Role
- assigned to
1
- has roles
1..*
Report Function
Coordination of Care Function
Encounter Function
Appointment Function
Request Function
Veteran Information Function
MASS Setup Admin
Role
Function Role



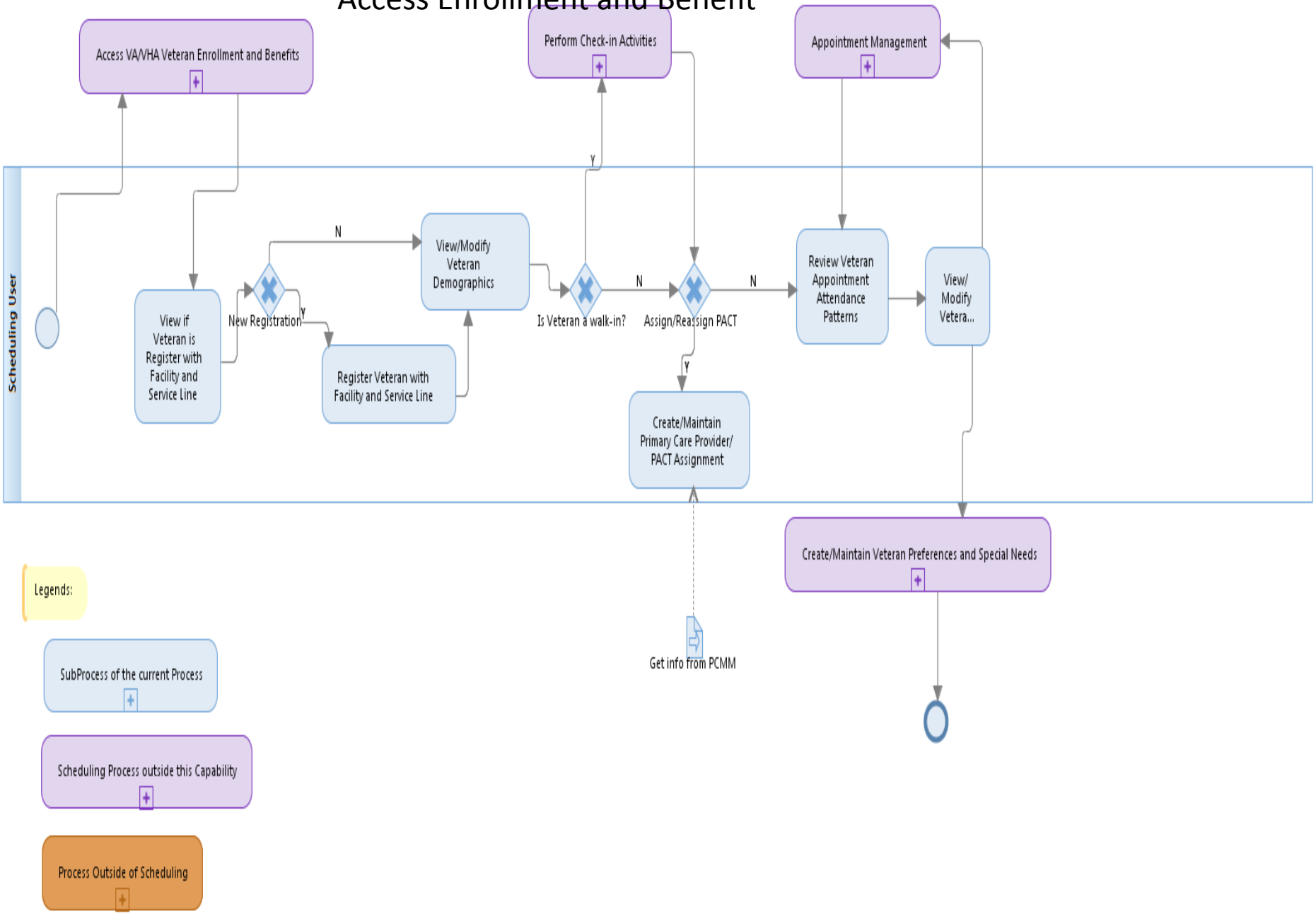
Co-Pay
1 - decides
1 benefits
Pensation
Benefits
Enrollment
Eligibility
startdate
enddate
- has benefits
- associated with
- has
- enrolls in
- has some
- belonged to
- assigned to
Veteran
- owned by
- assigned to
- associated
- assigned to
- has
- belongs to
- owned by
veteran
1 - owns
Reqeust
status
Health Record
Registration
Appointment
type
state
datetime
notification flag
duration
- associated wtih
- associated with
- consumed by
- handles
Service Line


Service
Partener Provider
Facility
Facility to Facility Care Coordination Agreement
Private Care Coordination Agreement
Service to Service Coordination Agreements
Government Network Care Coordination Agreements
National Care Coordination Agreements
Care Coordination Agreement
- has sub-services
*
1
- associated with
- used by
- associated
- used by
*
*
- associated with
*
- uses
*
*
*

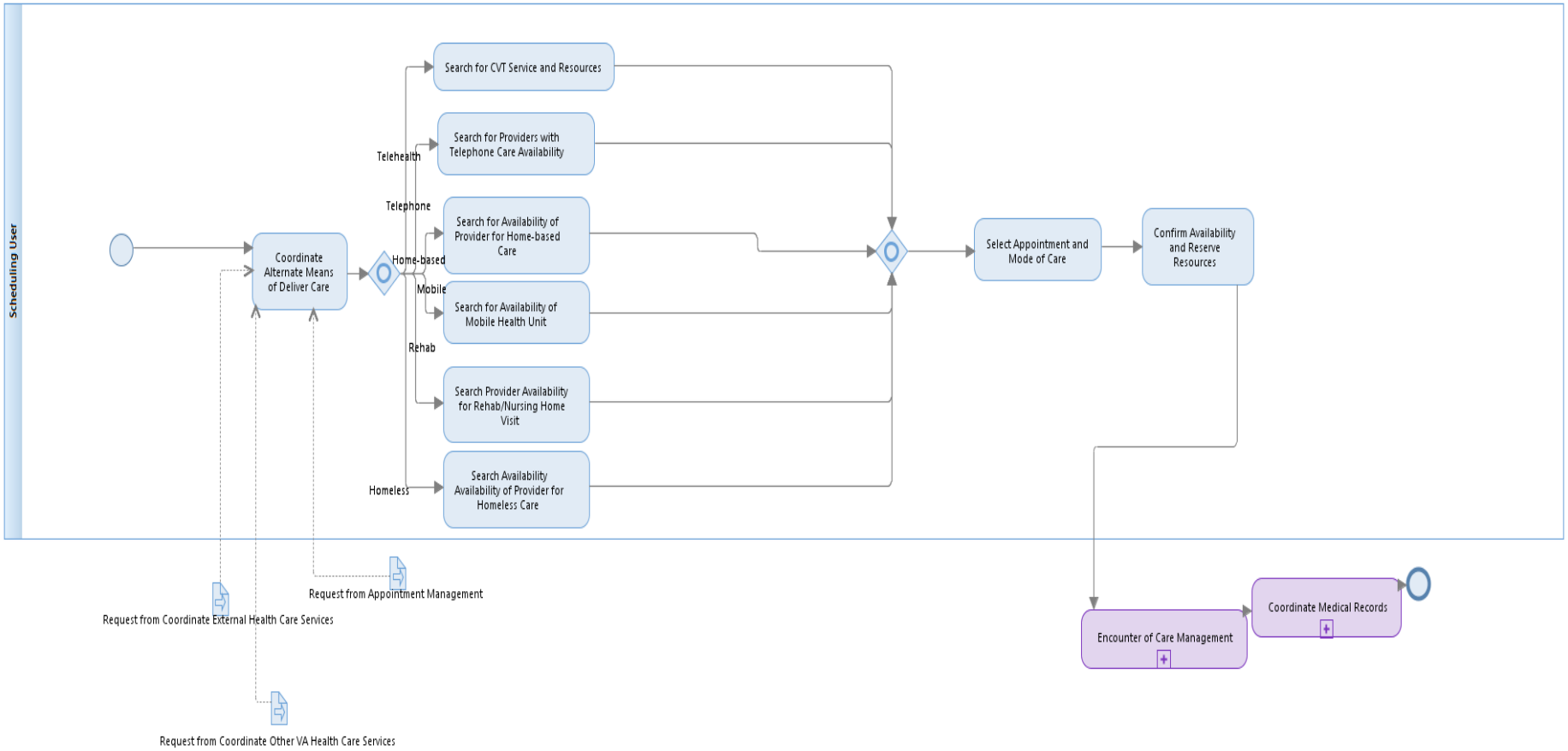

Hospital
CBOC
Address
1
- has a
1
- associated with
VISN
- associated with
*
- consists of
1..*
Facility
1
- owns rooms
Partener Provider
1..*
- has
PACT
- associated with
- associated with
Appointment
type
state
datetime
notification flag
duration
- assigned to
1
- associated to
1..*
* - has
Room
Provider
Resource Group
Nurse
Staff
Equipment
Service
- assigned to
- has sub-services
1
1
1
* resource
*
- provided to
- associated with
1..*
- needs resources
Resource

Business Process Models

Access Enrollment and Benefit



Alternative means of Care



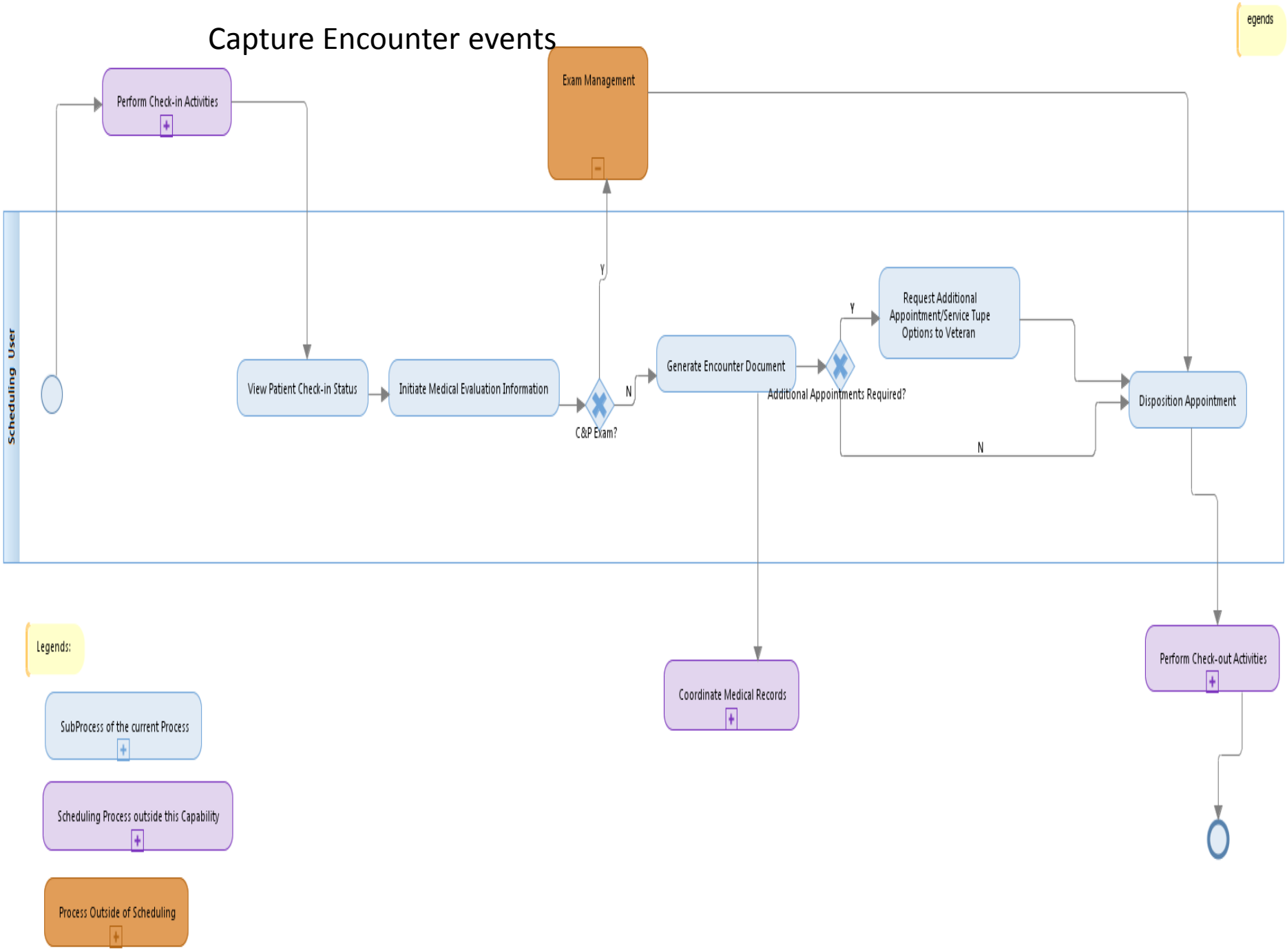
Legends:

SubProcess of the current Process

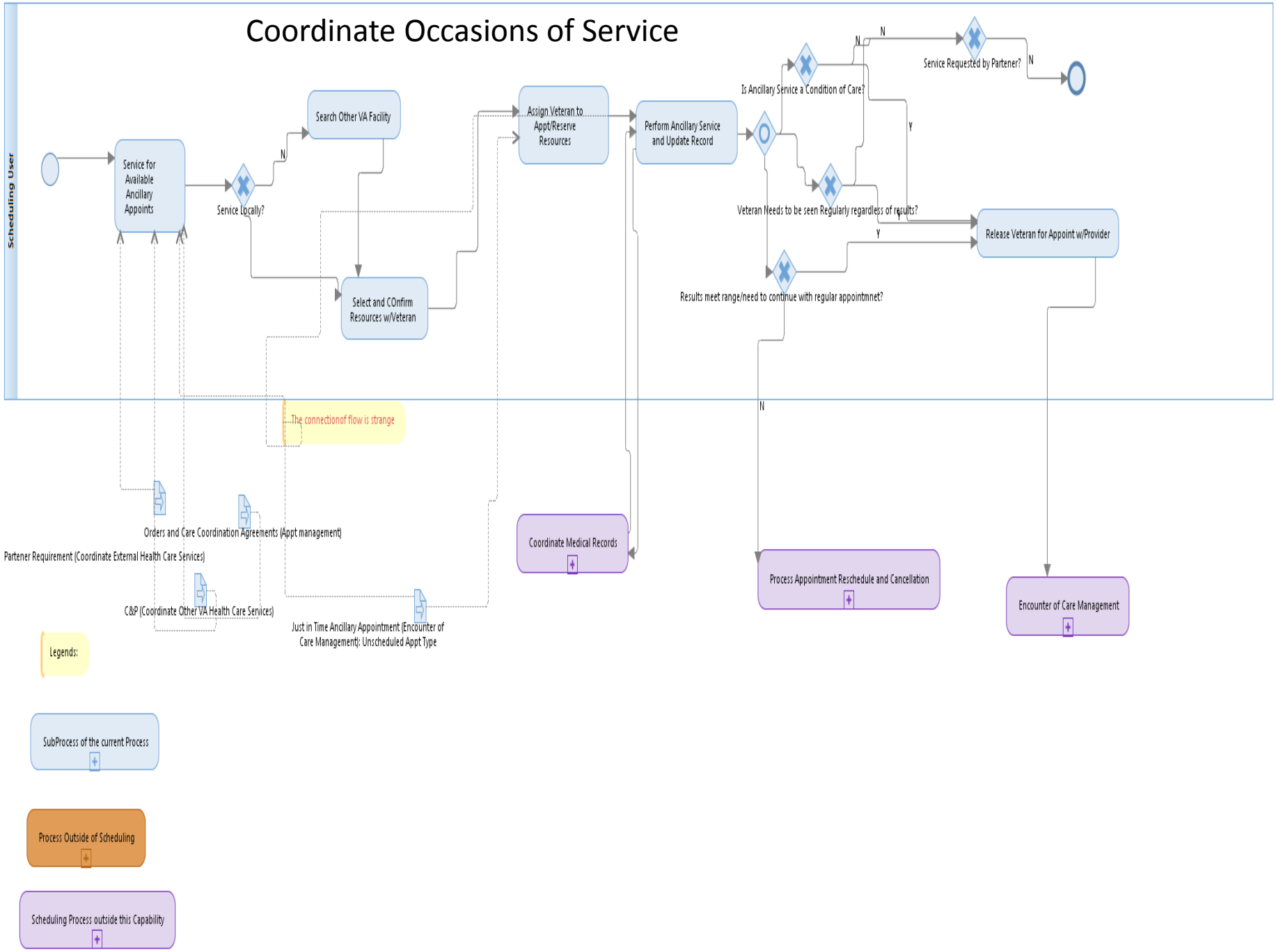
Process Outside of Scheduling

Scheduling Process outside this Capability

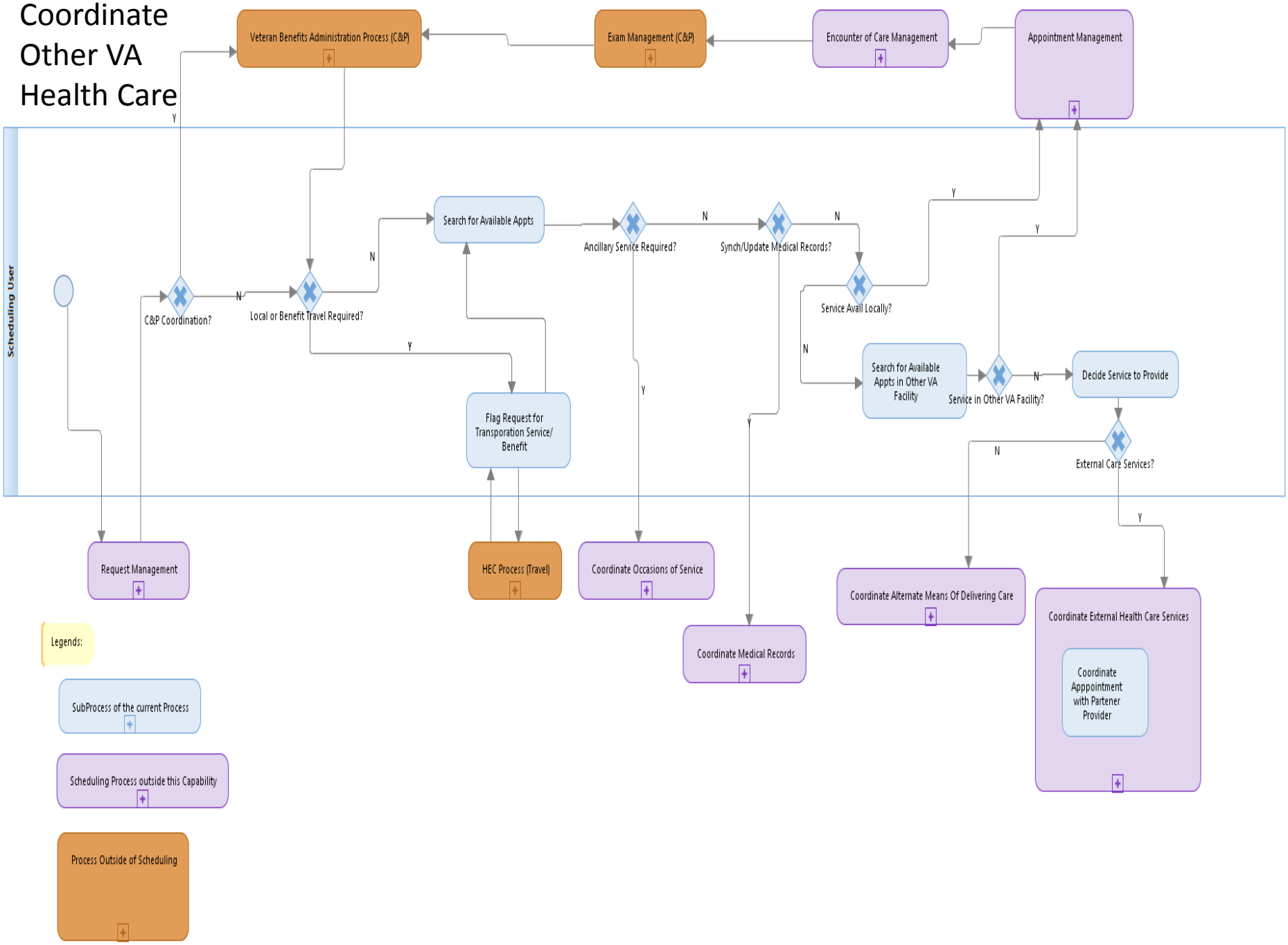
Capture Encounter events



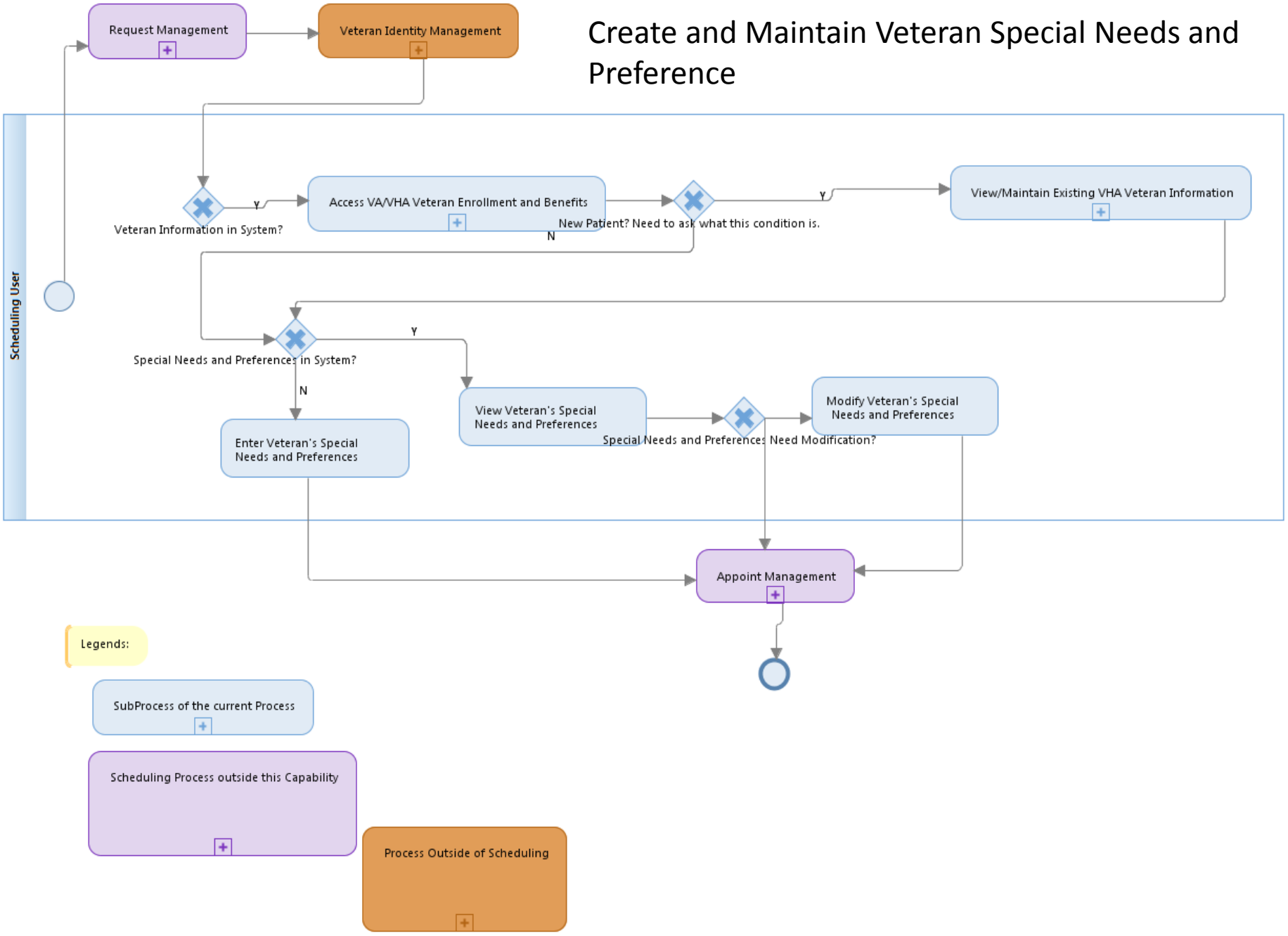
Coordinate Occasions of Service

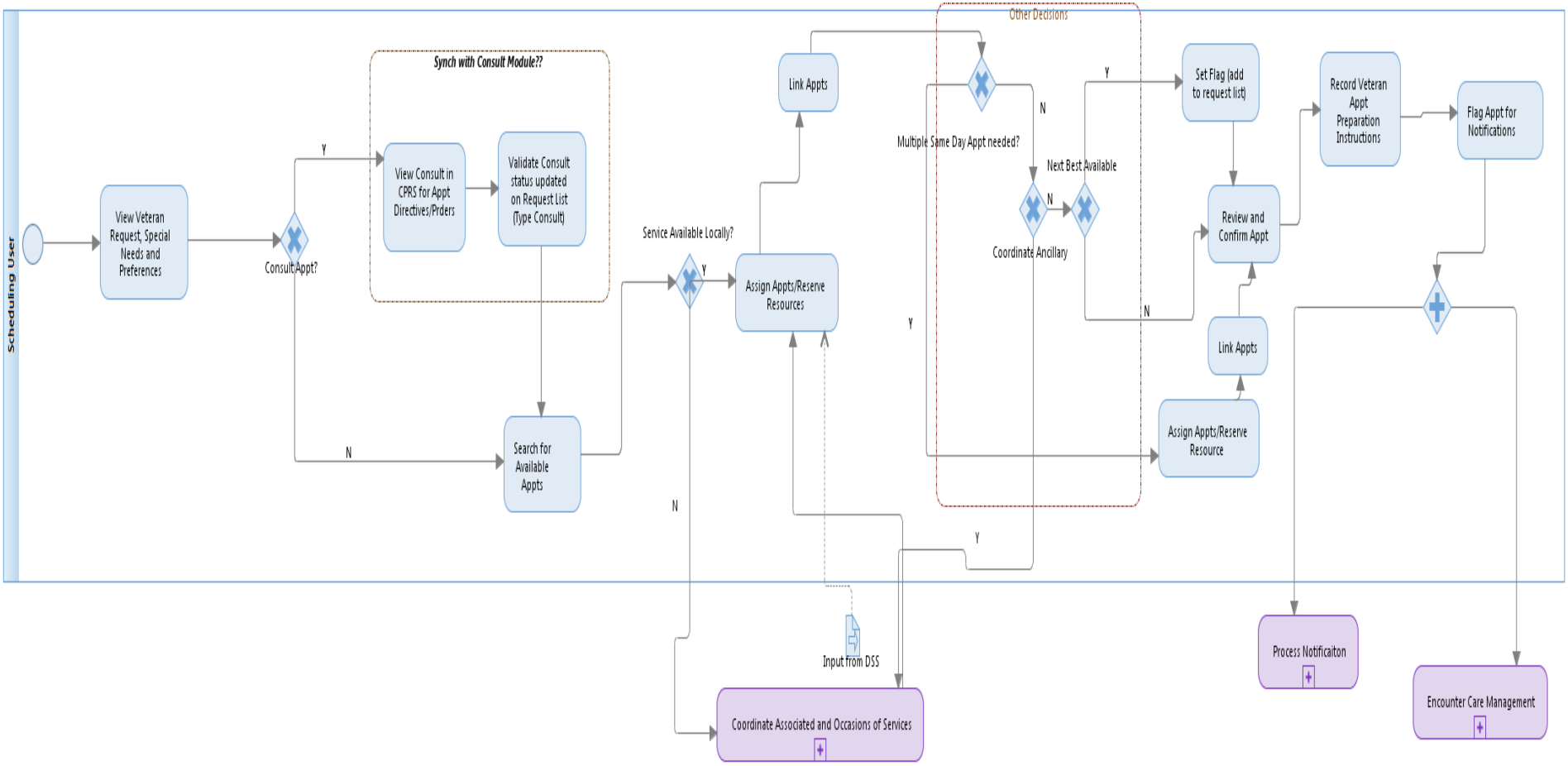


Coordinate Other VA Health Care



Create and Maintain Veteran Special Needs and Preference





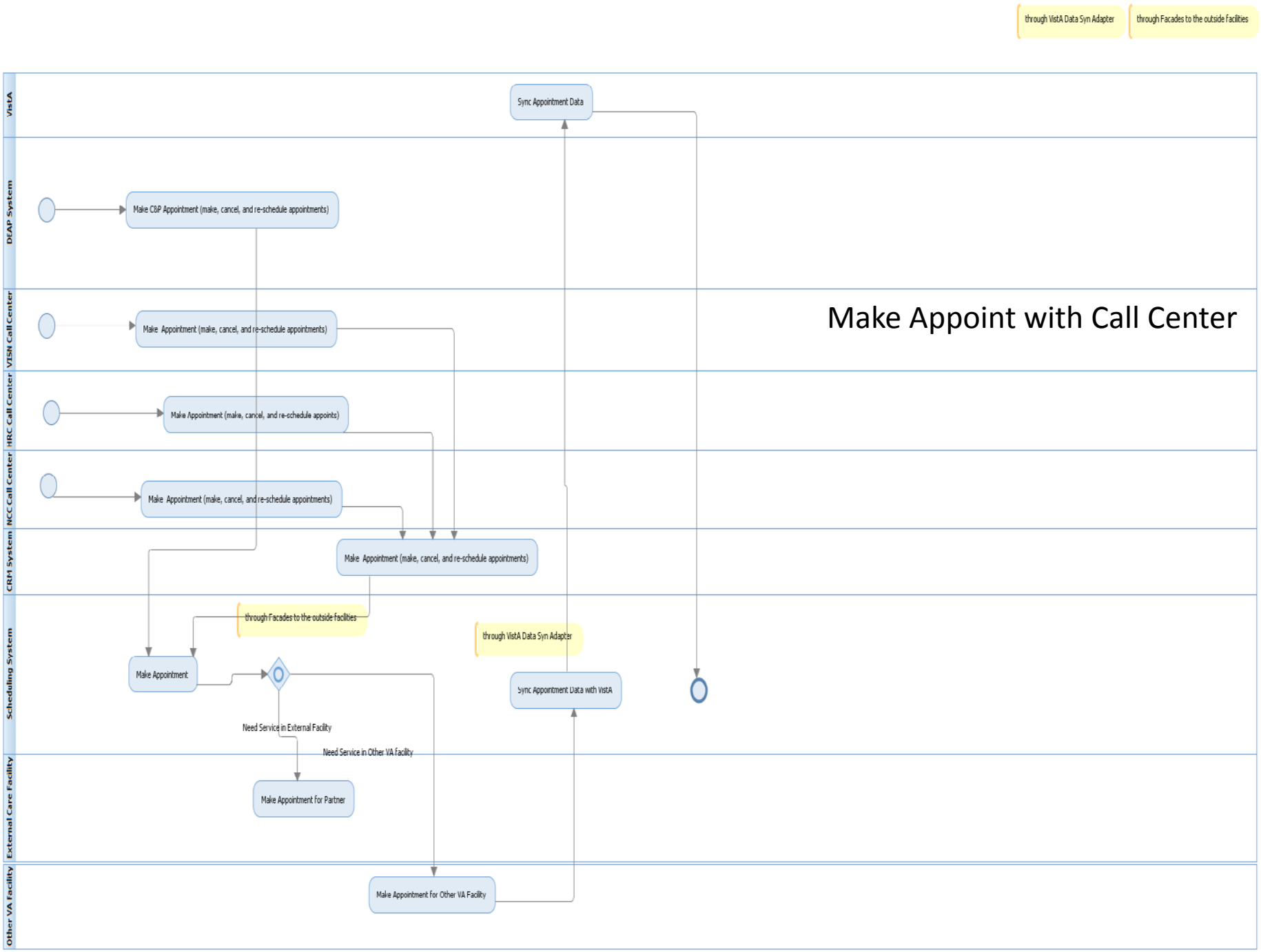
SubProcess of the current Process

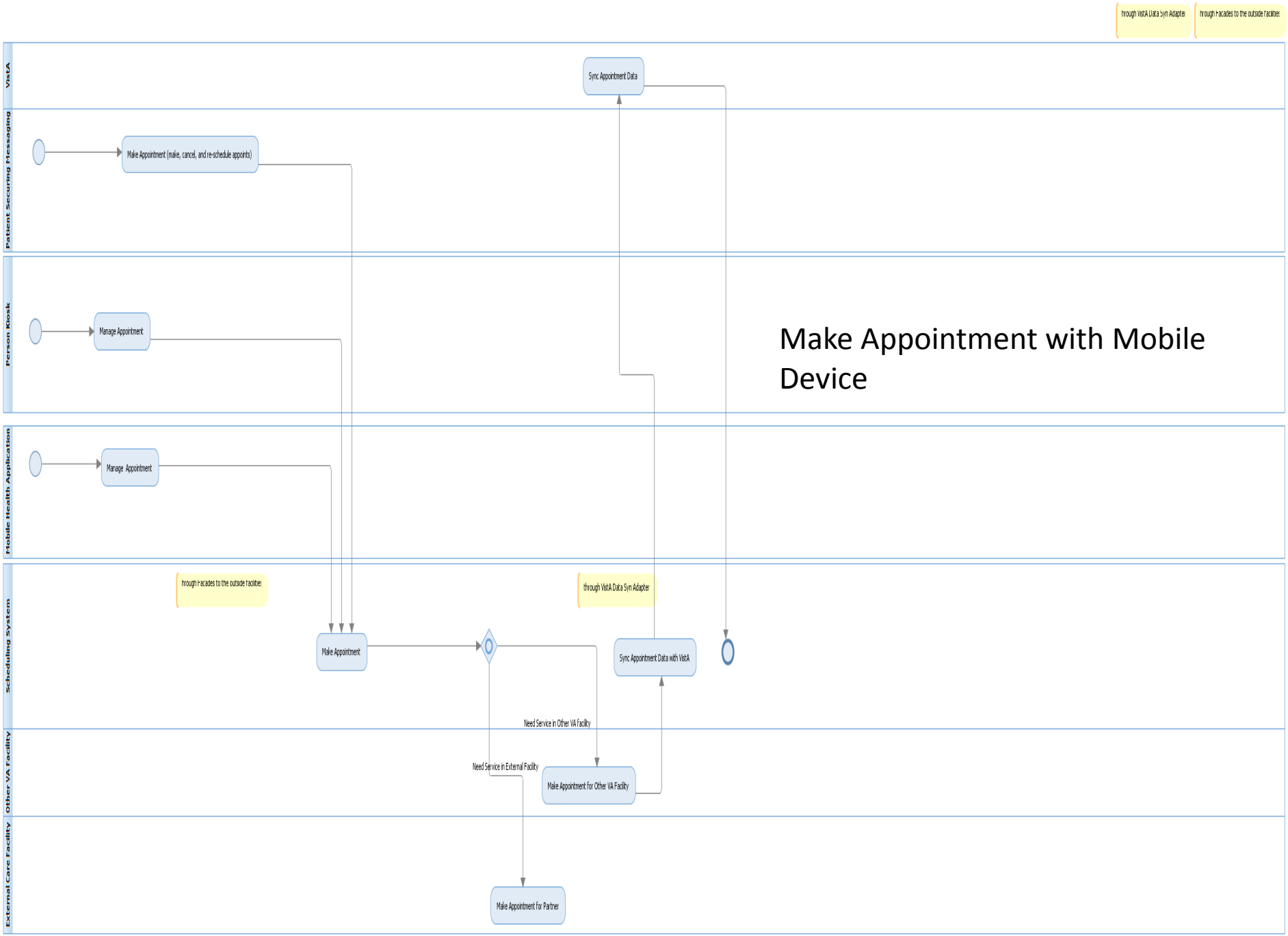
Process Outside of Scheduling

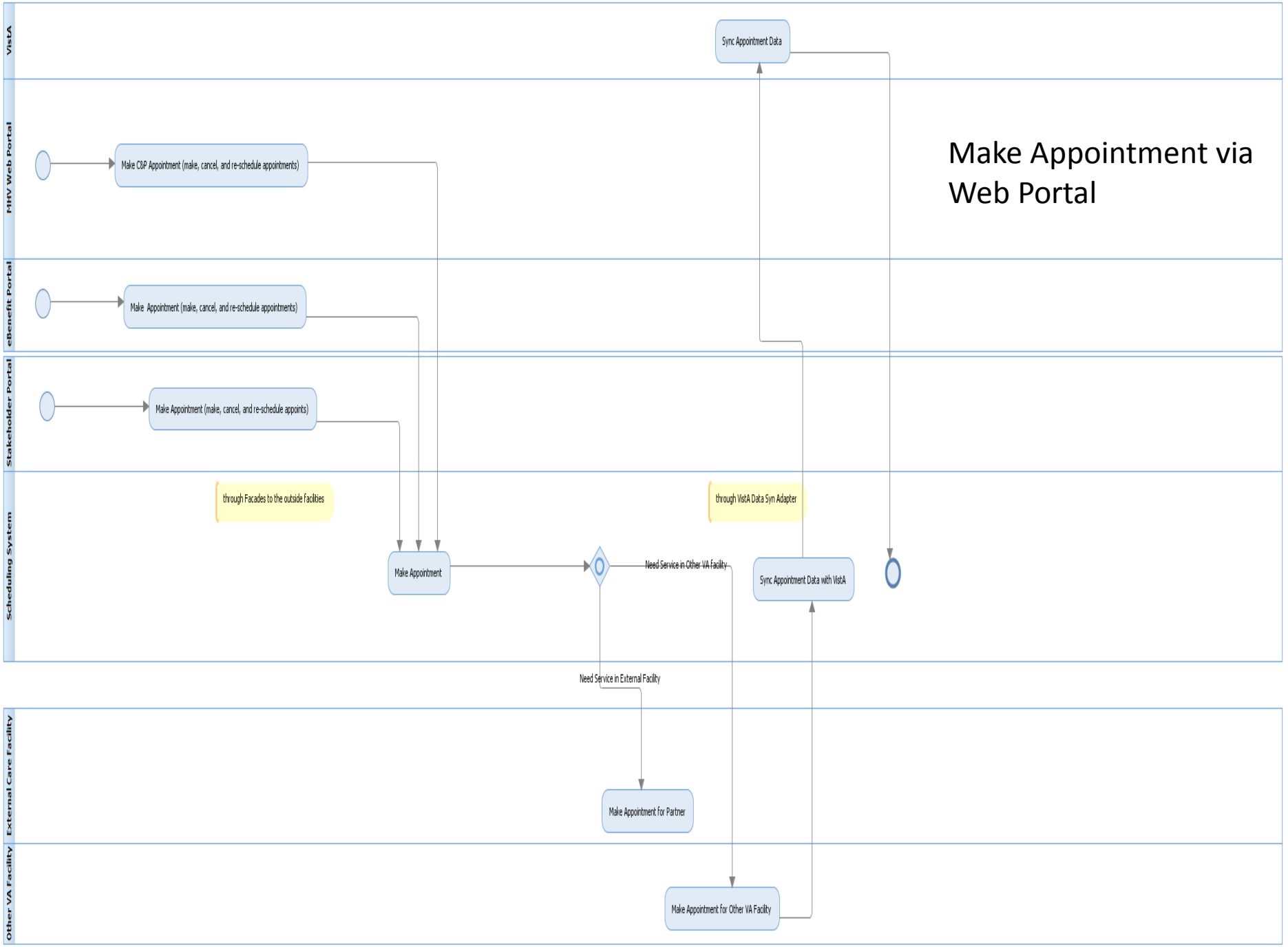
Scheduling Process outside this Capability

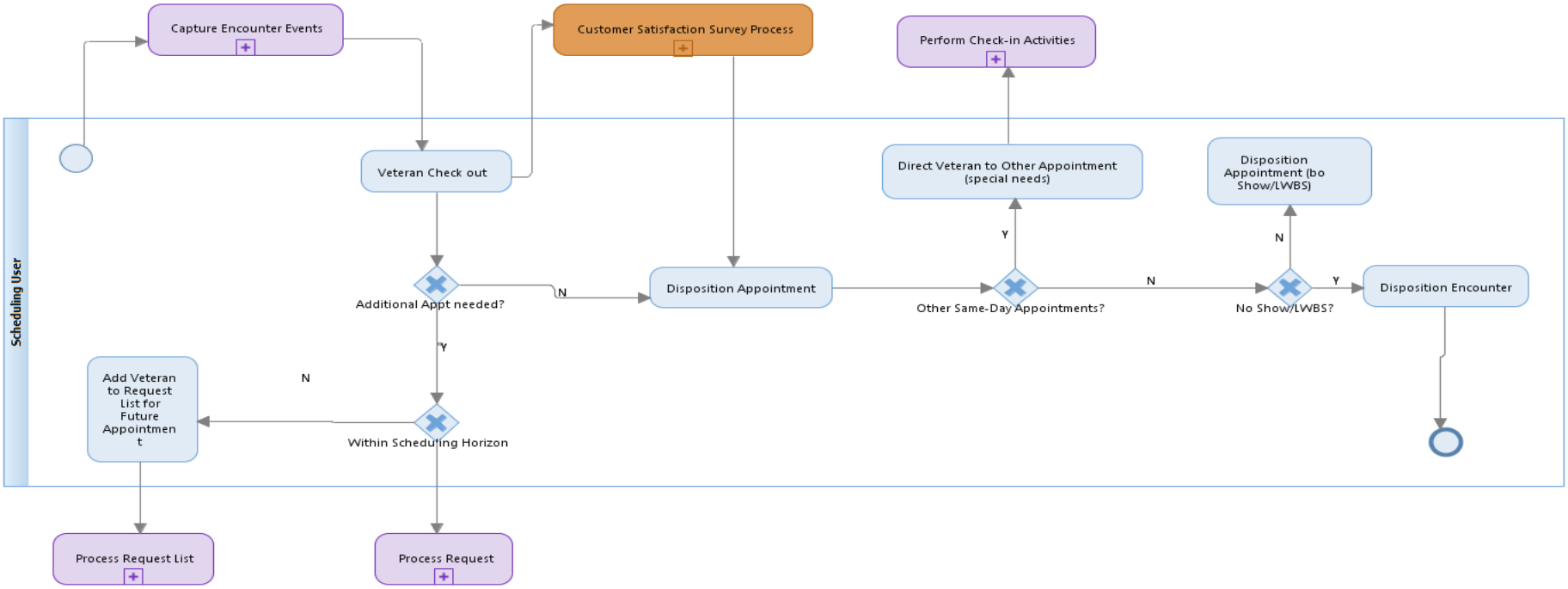
egends

Make Appointments

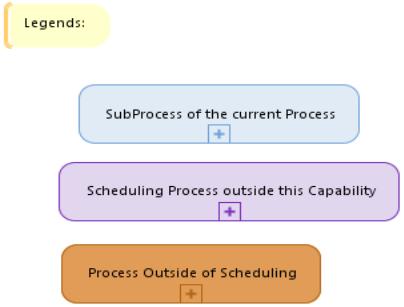

through VistA Data Syn Adapter
through Facades to the outside facilities
VistA
DEAP System
VISN Call Center
HRC Call Center
NCC Call Center
CRM System
Scheduling System
External Care Facility
Other VA Facility
Sync Appointment Data
Make C&P Appointment (make, cancel, and re-schedule appointments)
Make Appointment (make, cancel, and re-schedule appointments)
Make Appointment (make, cancel, and re-schedule appoints)
Make Appointment (make, cancel, and re-schedule appointments)
Make Appointment (make, cancel, and re-schedule appointments)
through Facades to the outside facilities
through VistA Data Syn Adapter
Make Appointment
Sync Appointment Data with VistA
Need Service in External Facility
Need Service in Other VA Facility
Make Appointment for Partner
Make Appointment for Other VA Facility
Make Appoint with Call Center

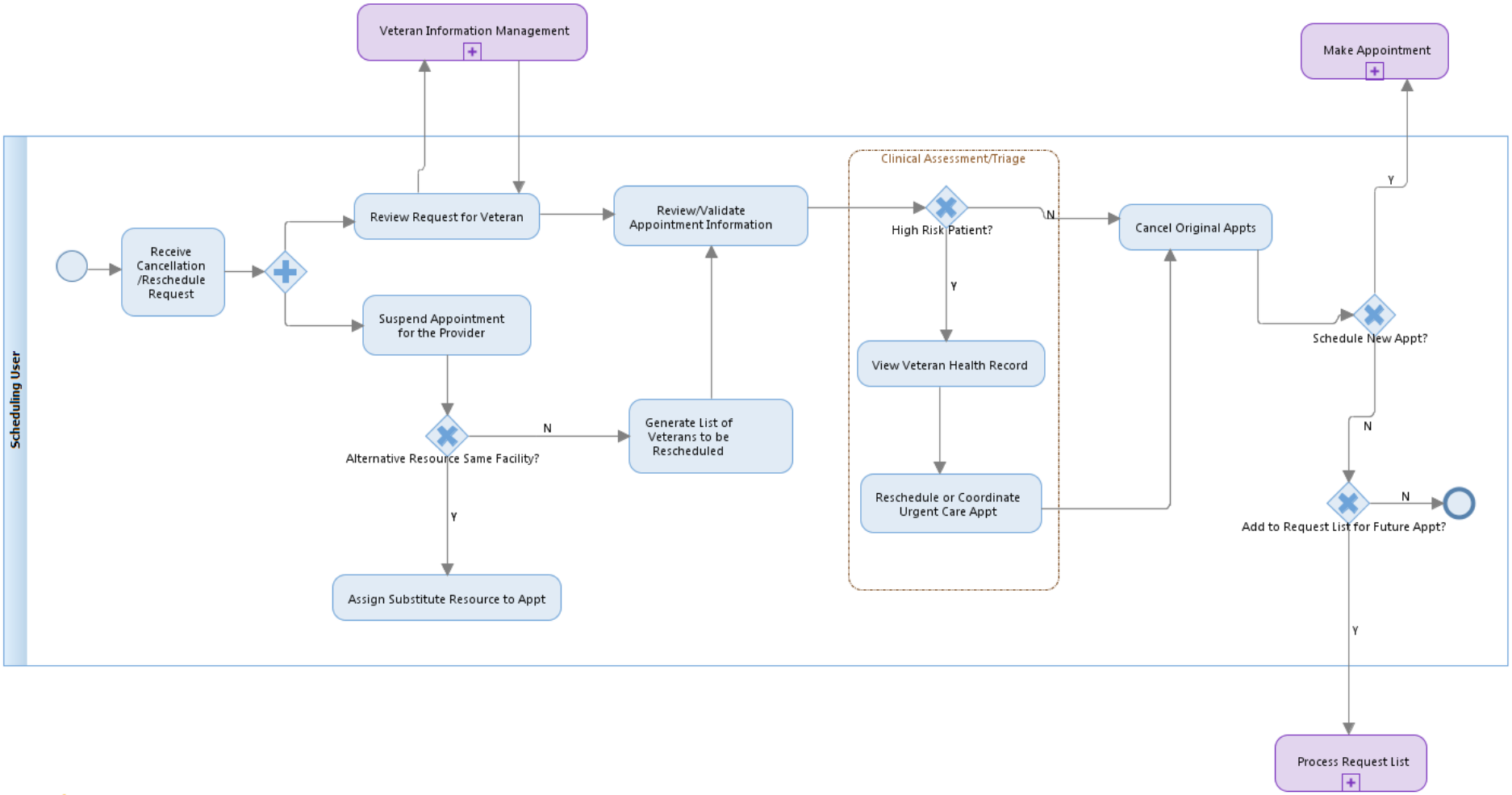

through VistA Data Syn Adapter
through Facades to the outside facilities
VistA
Sync Appointment Data
Patient Securing Messaging
Make Appointment (make, cancel, and re-schedule appoints)
Person Kiosk
Manage Appointment
Make Appointment with Mobile Device
Mobile Health Application
Manage Appointment
Scheduling System
through Facades to the outside facilities
through VistA Data Syn Adapter
Make Appointment
Sync Appointment Data with VistA
Need Service in Other VA Facility
Other VA Facility
Need Service in External Facility
Make Appointment for Other VA Facility
External Care Facility
Make Appointment for Partner


VistA
Sync Appointment Data
MHV Web Portal
Make C&P Appointment (make, cancel, and re-schedule appointments)
Make Appointment via Web Portal
eBenefit Portal
Make Appointment (make, cancel, and re-schedule appointments)
Stakeholder Portal
Make Appointment (make, cancel, and re-schedule appoints)
Scheduling System
through Facades to the outside facilities
through VistA Data Syn Adapter
Make Appointment
Need Service in Other VA facilty
Sync Appointment Data with VistA
Need Service in External Facilty
External Care Facility
Make Appointment for Partner
Other VA Facilty
Make Appointment for Other VA Facilty



Perform Check out process





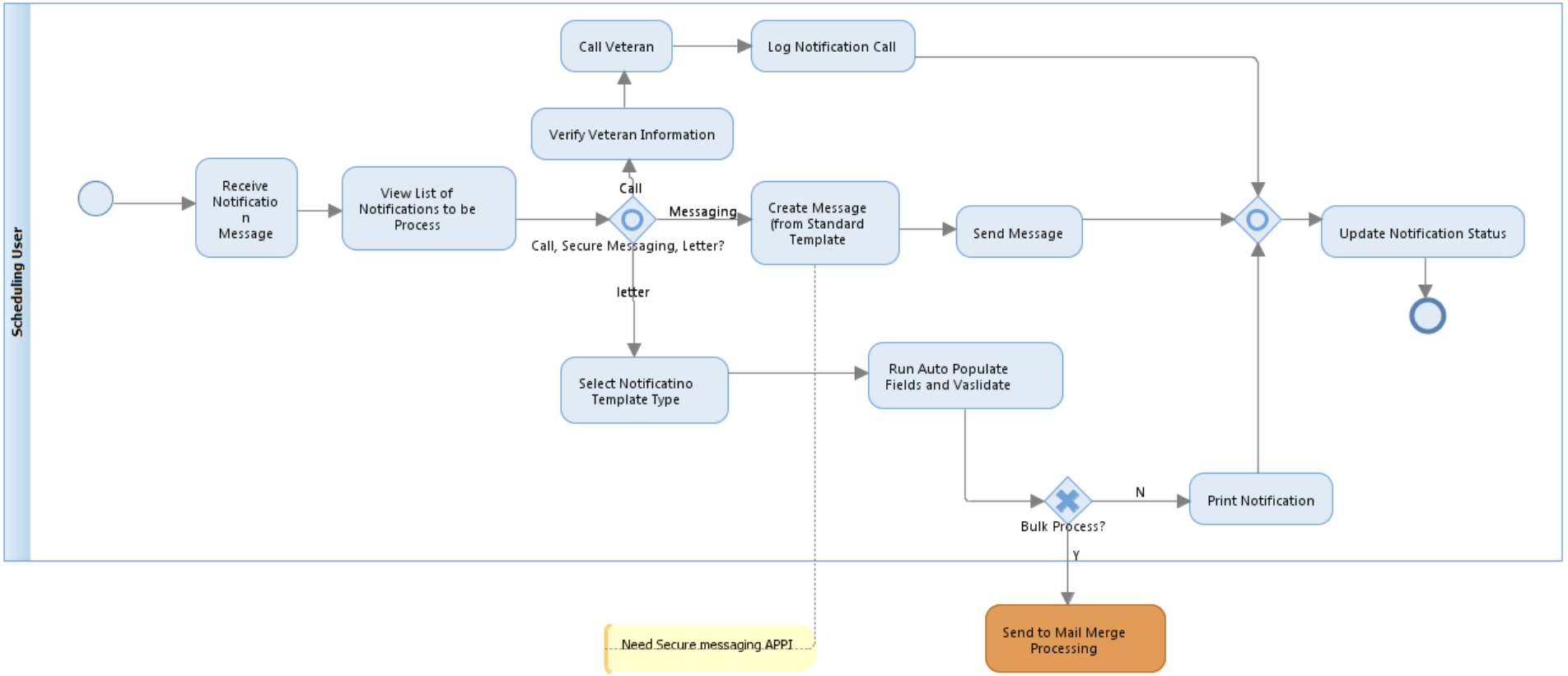
Legends:

SubProcess of the current Process

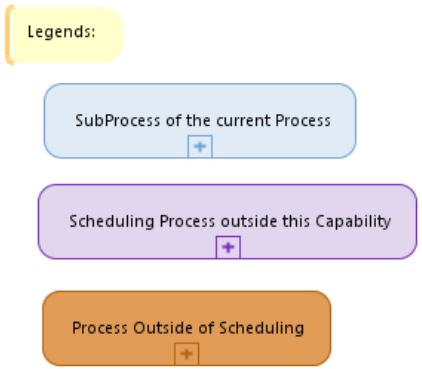
Scheduling Process outside this Capability

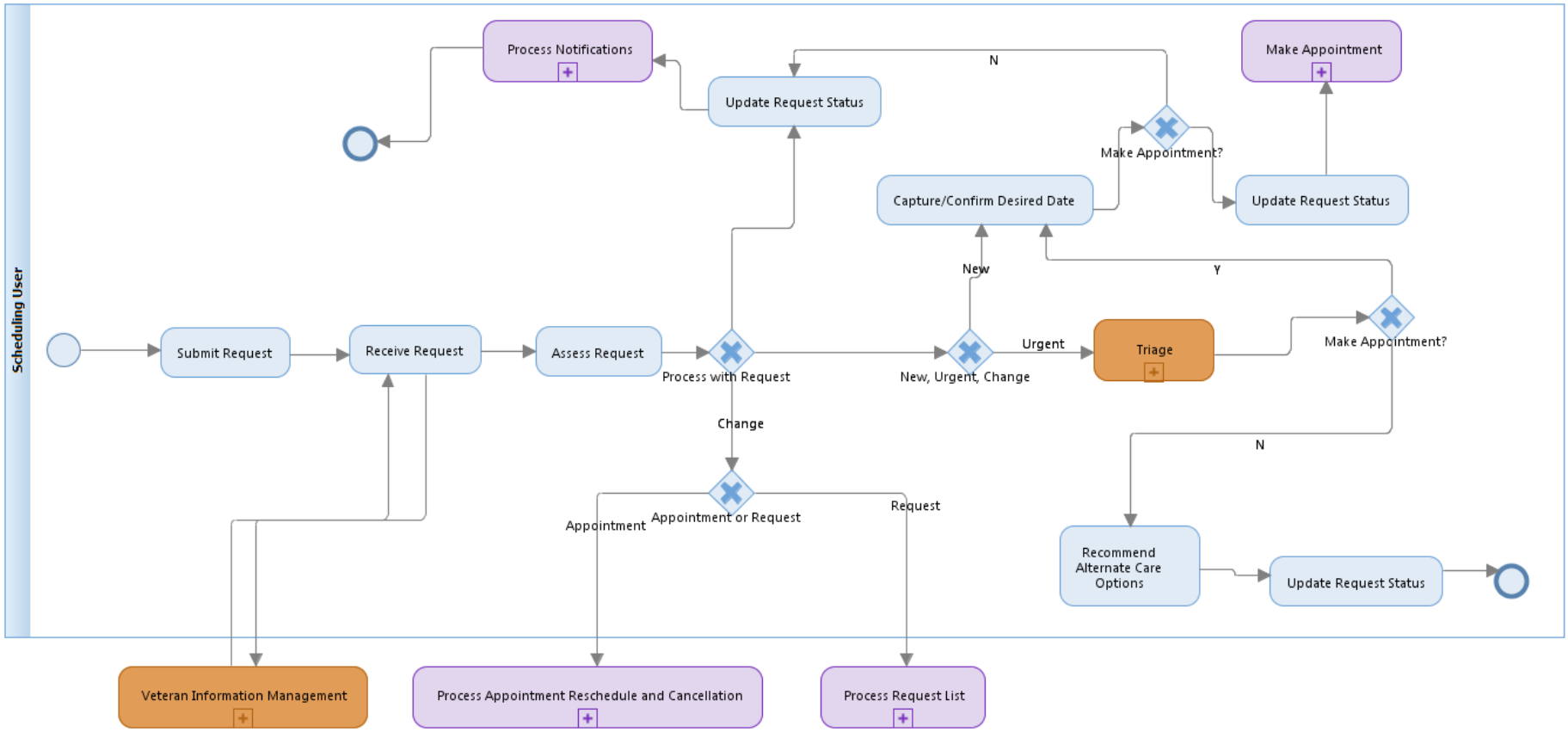
Process Outside of Scheduling

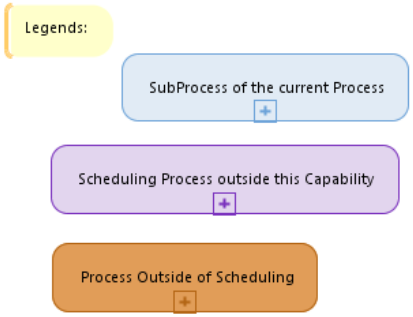
Process Appointment with Reschedule and Cancellation



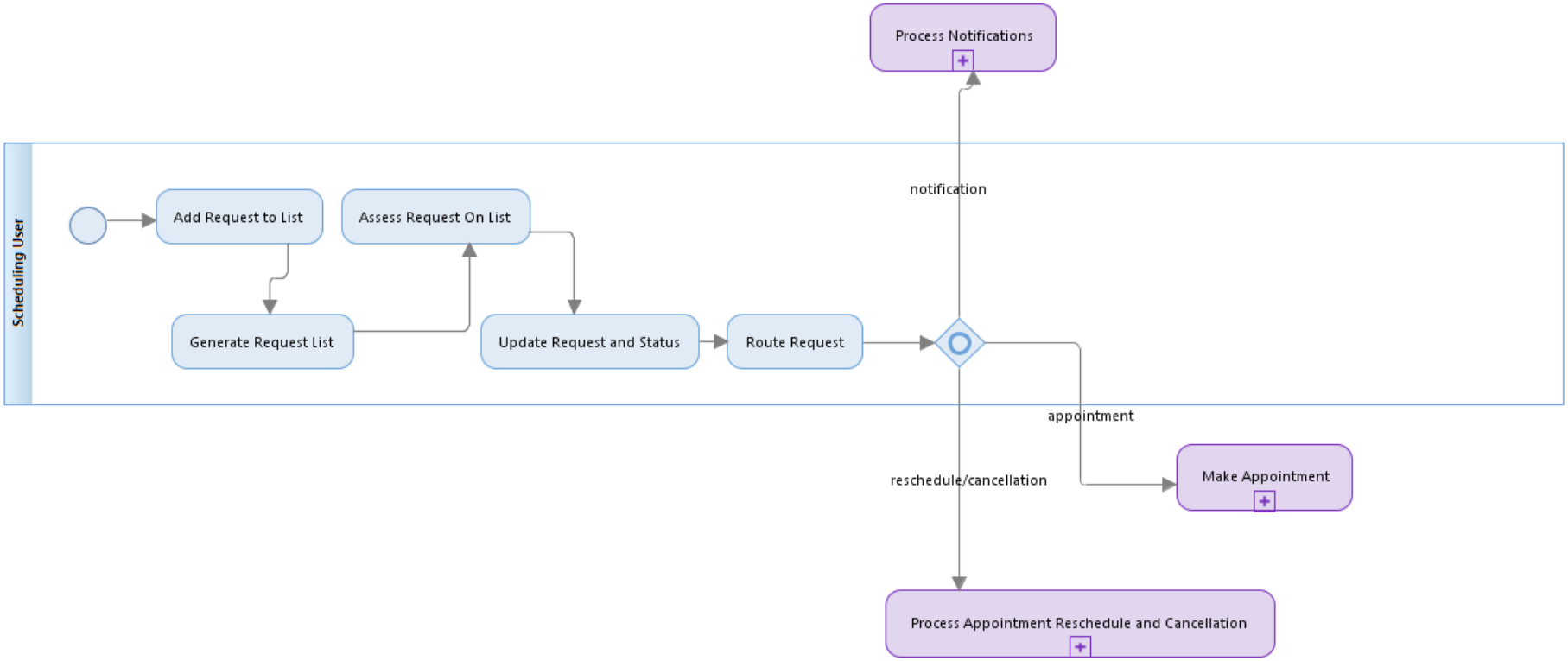
Process Notification



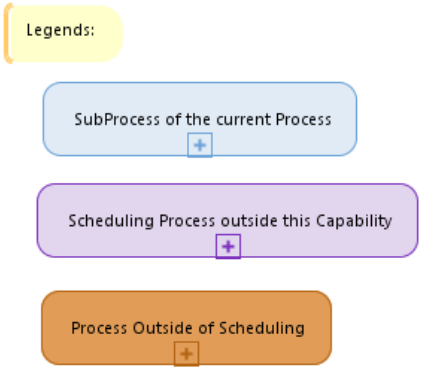




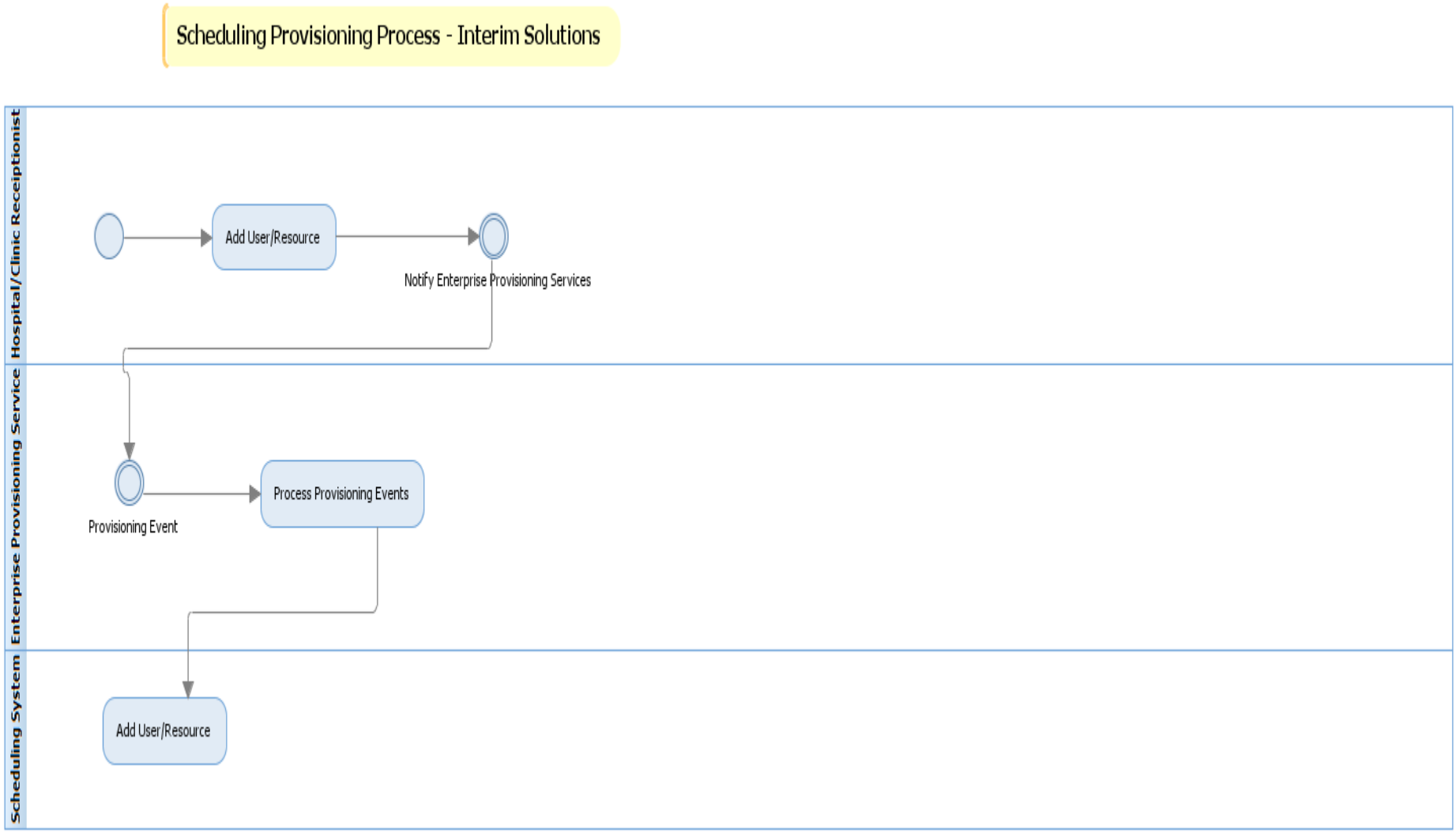
Process Notification



Process Notification List



Scheduling User Provisioning



Set up and Maintain Resource Availability

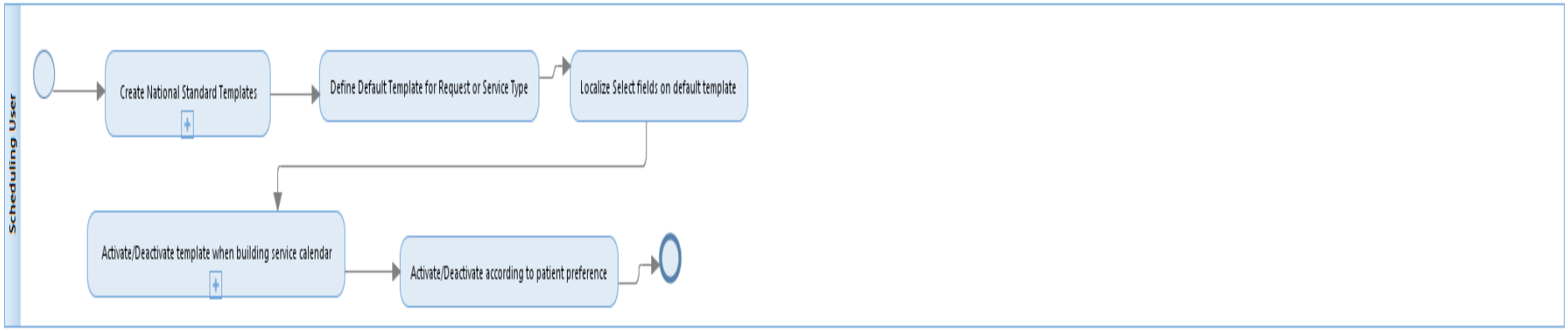
Legends:

SubProcess of the current Process

Scheduling Process outside this Capability

Process Outside of Scheduling

Set up and Maintain Notification templates



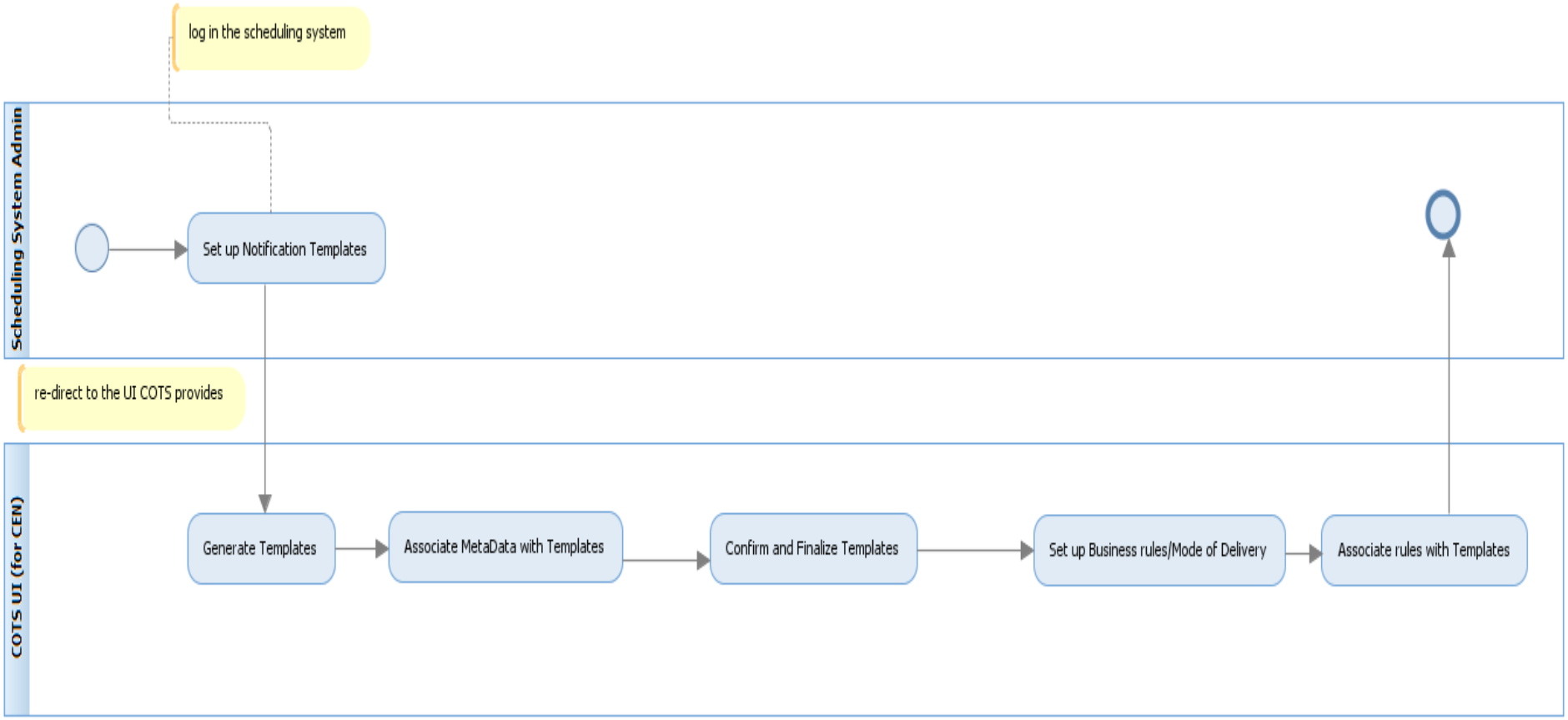
Legends:

SubProcess of the current Process

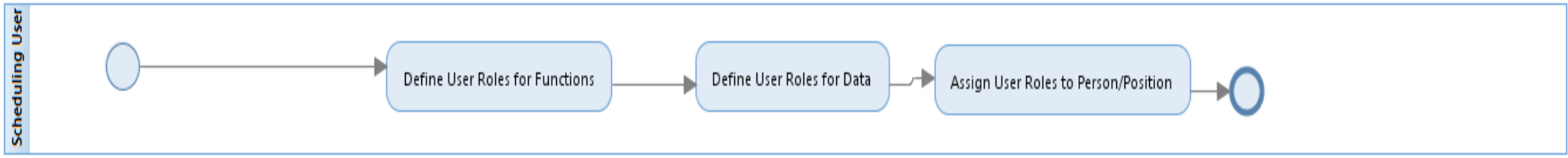
Scheduling Process outside this Capability

Process Outside of Scheduling

Set up and Maintain Notification templates with CEN



Set up and Maintain Scheduling System Access

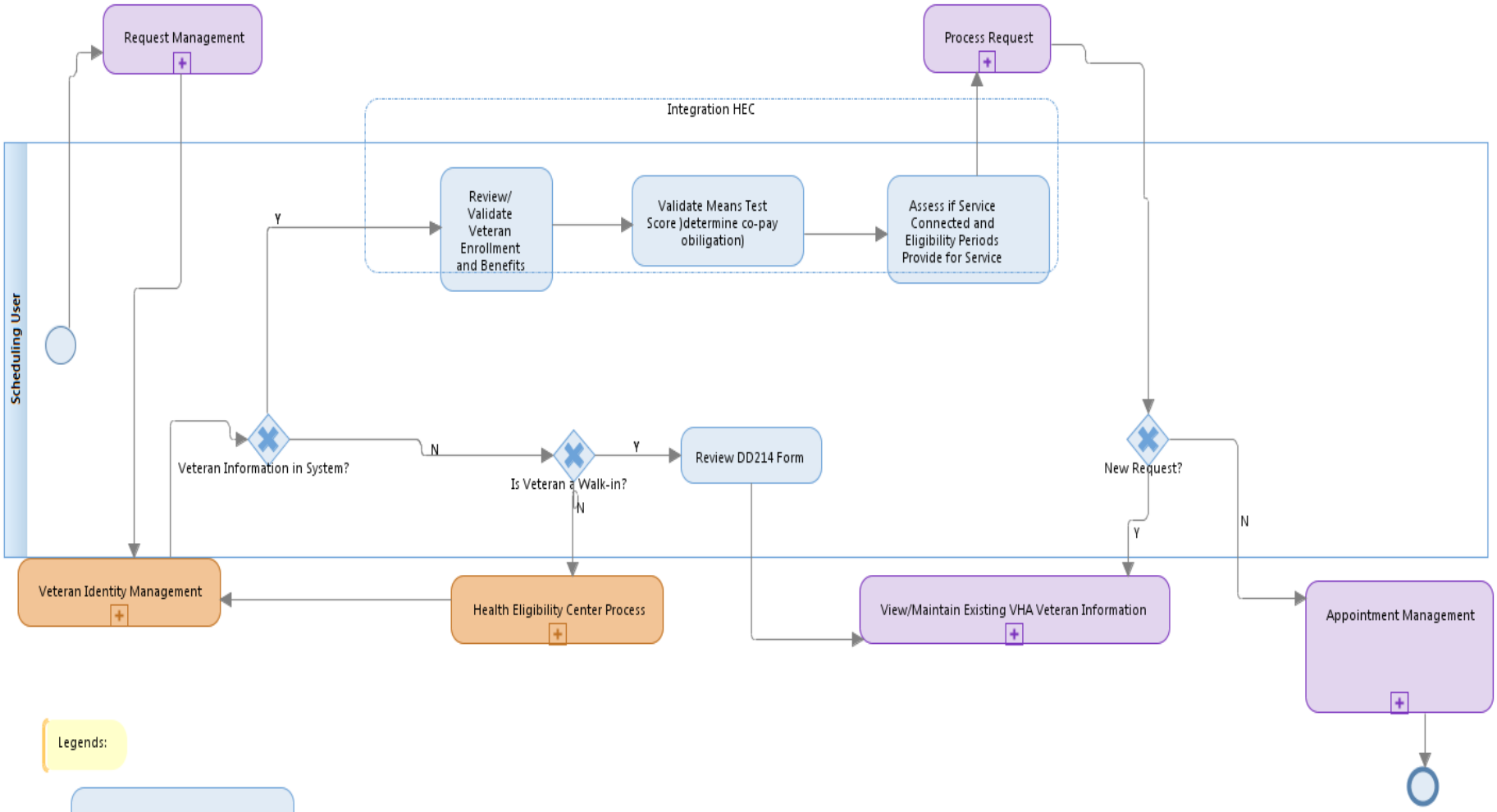


Legends:

SubProcess of the current Process

Scheduling Process outside this Capability

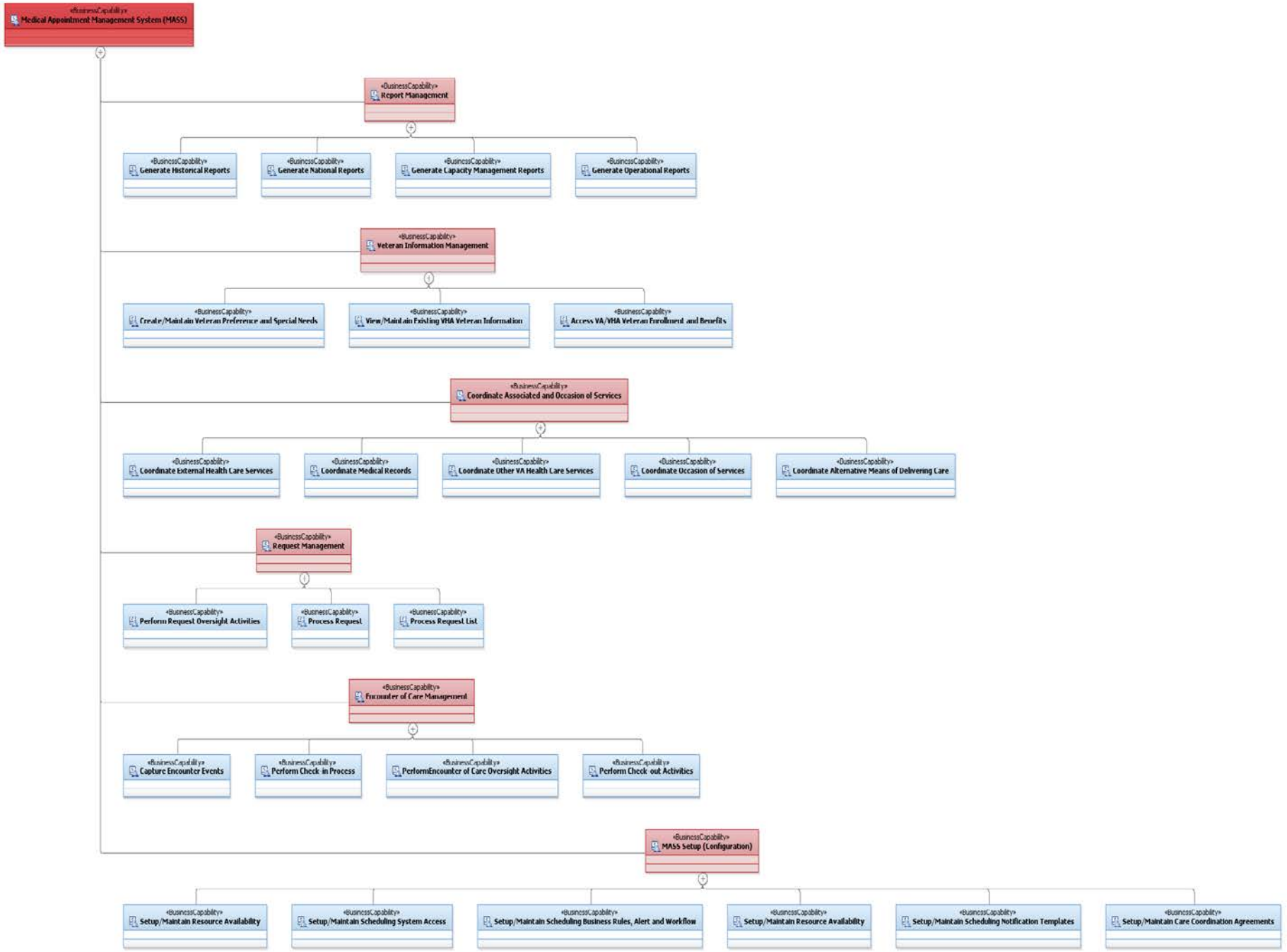
Process Outside of Scheduling

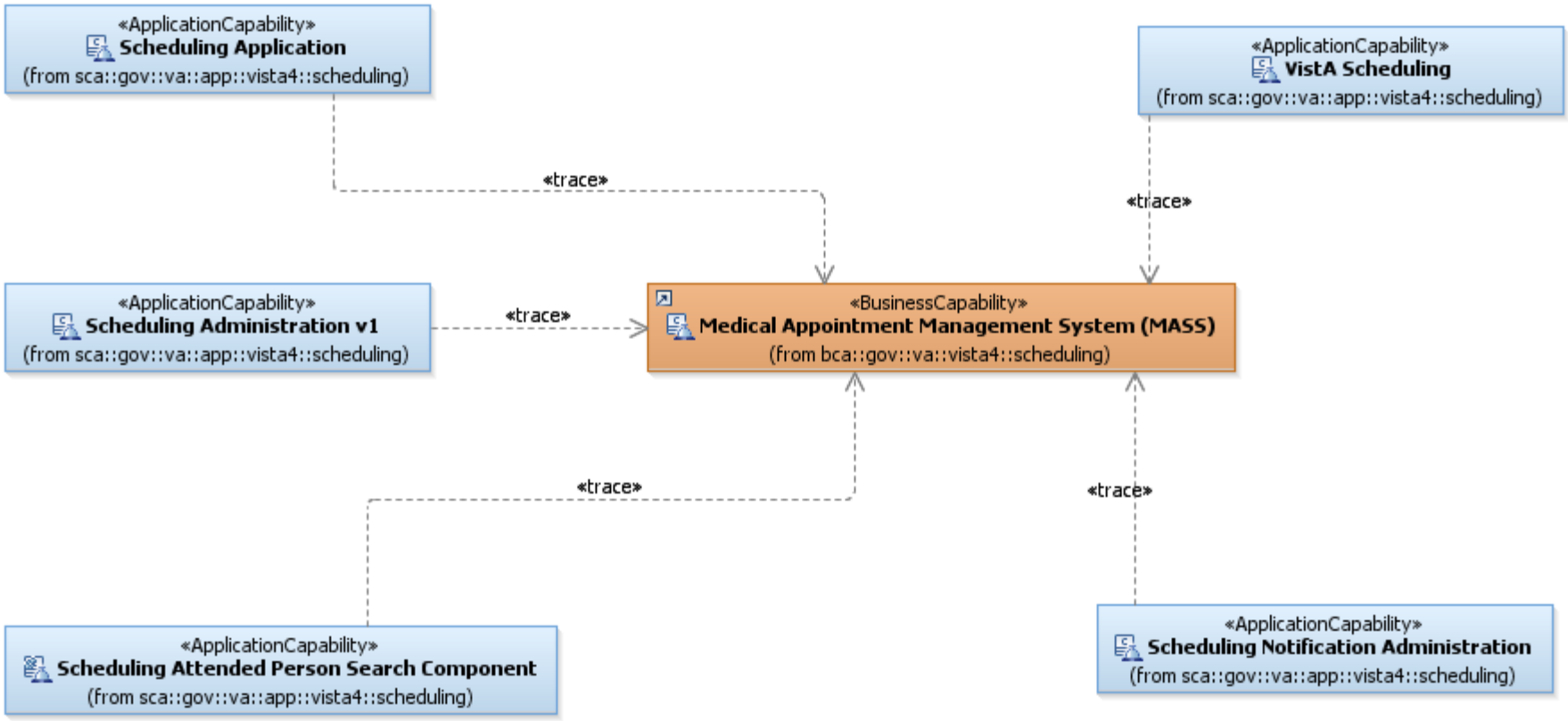


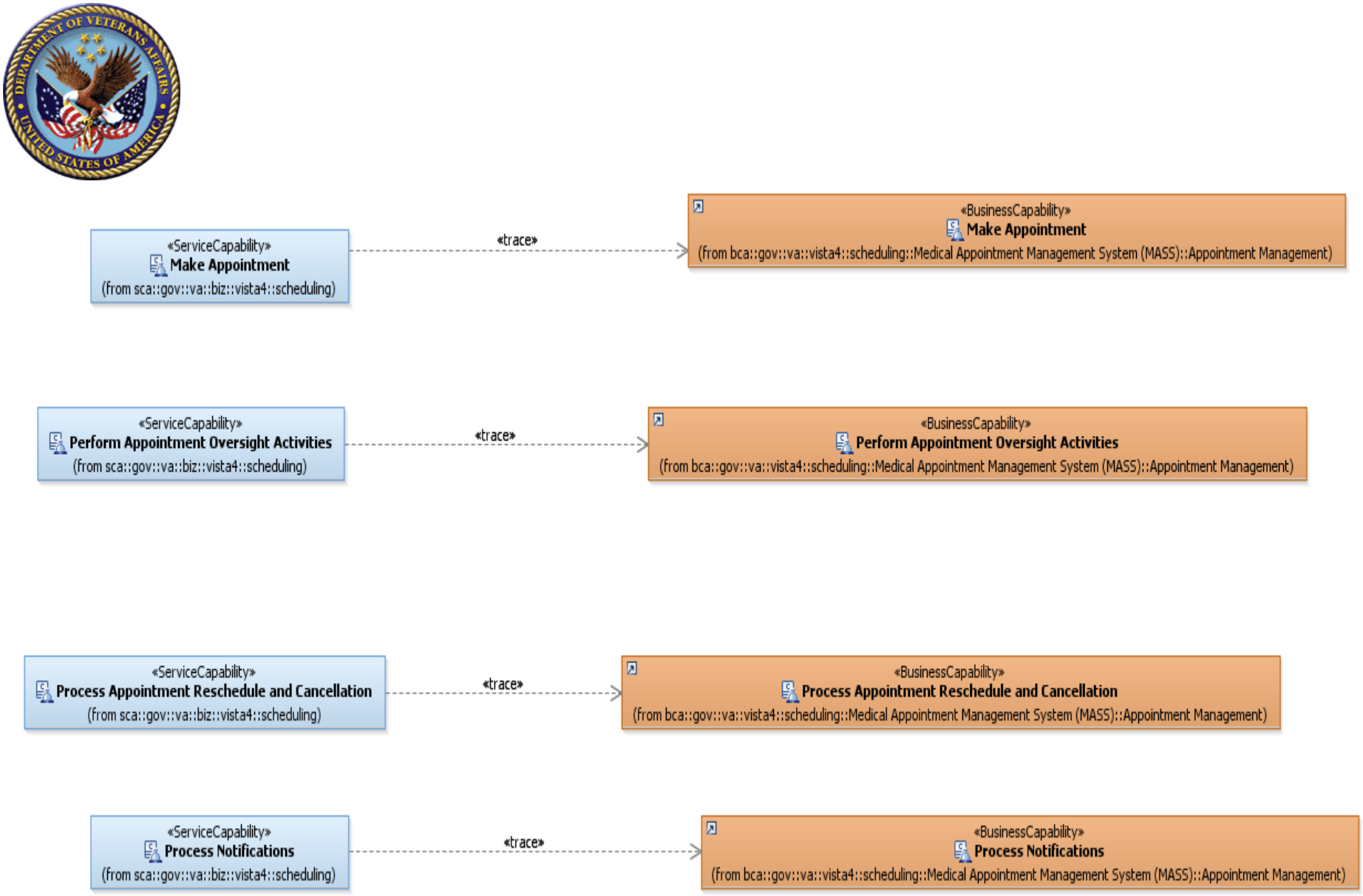
View and Maintain Existing VHA Veteran Information

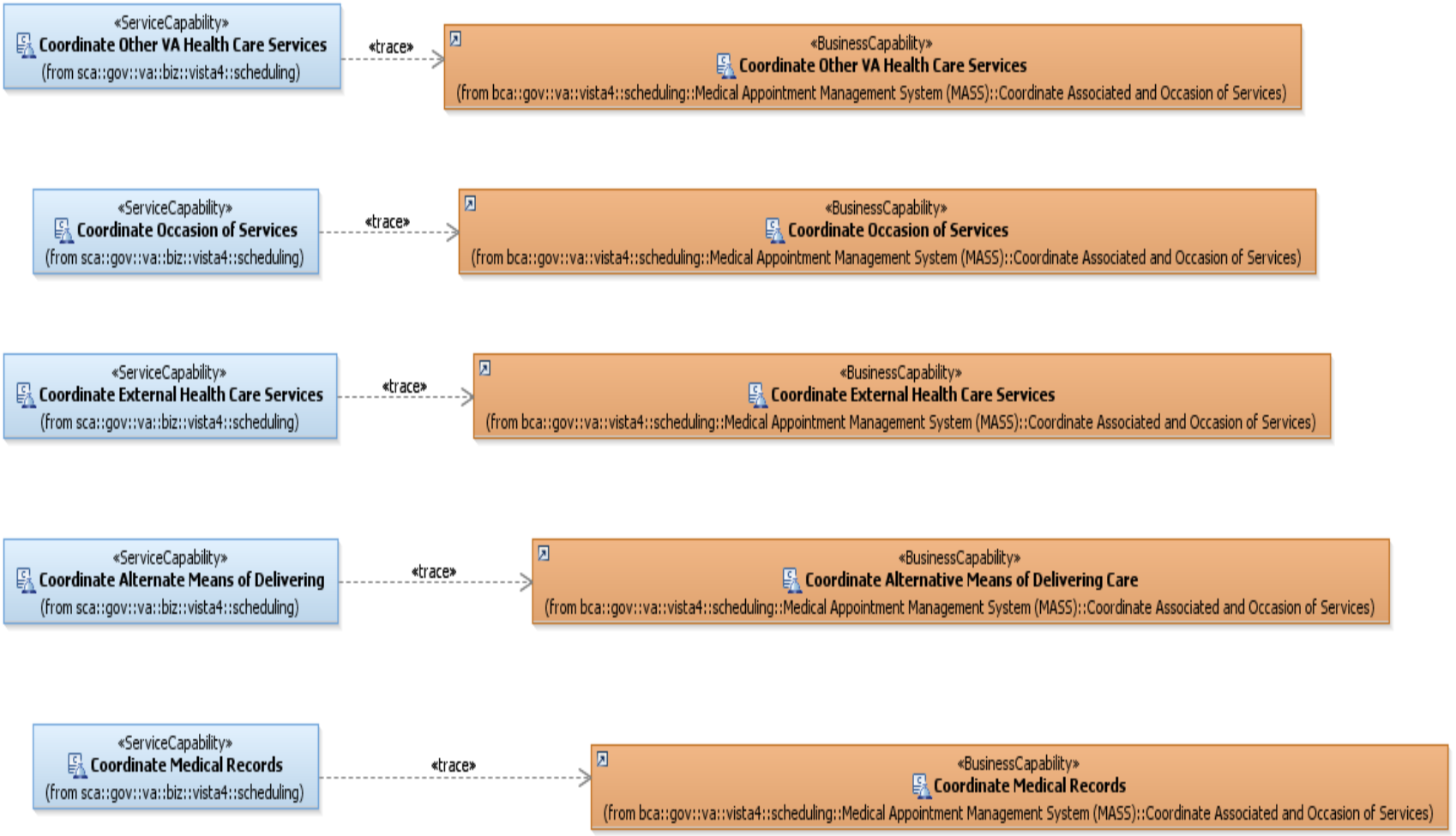
Traceability

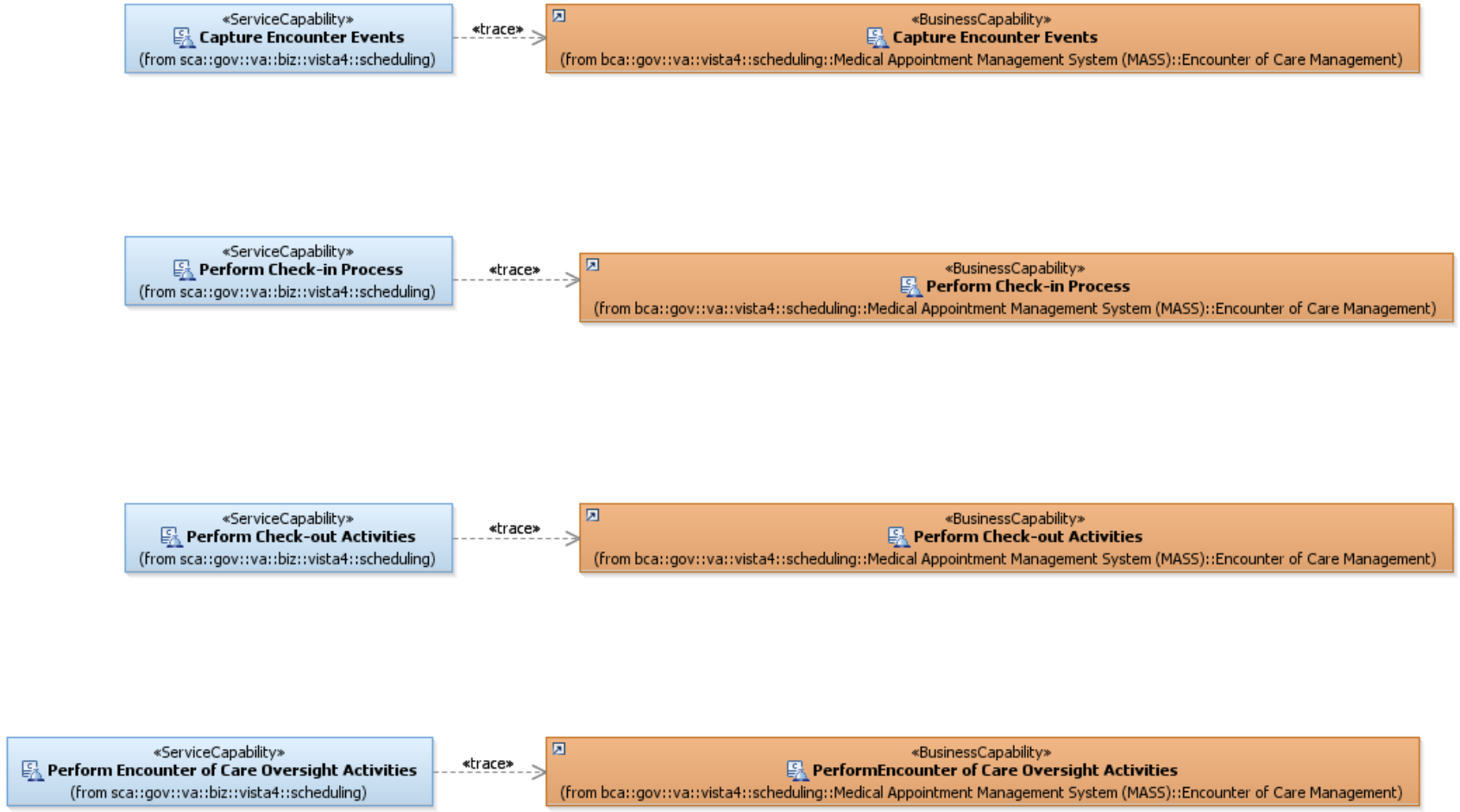
The next few slides show the traceability back to the scheduling system or individual business capability.

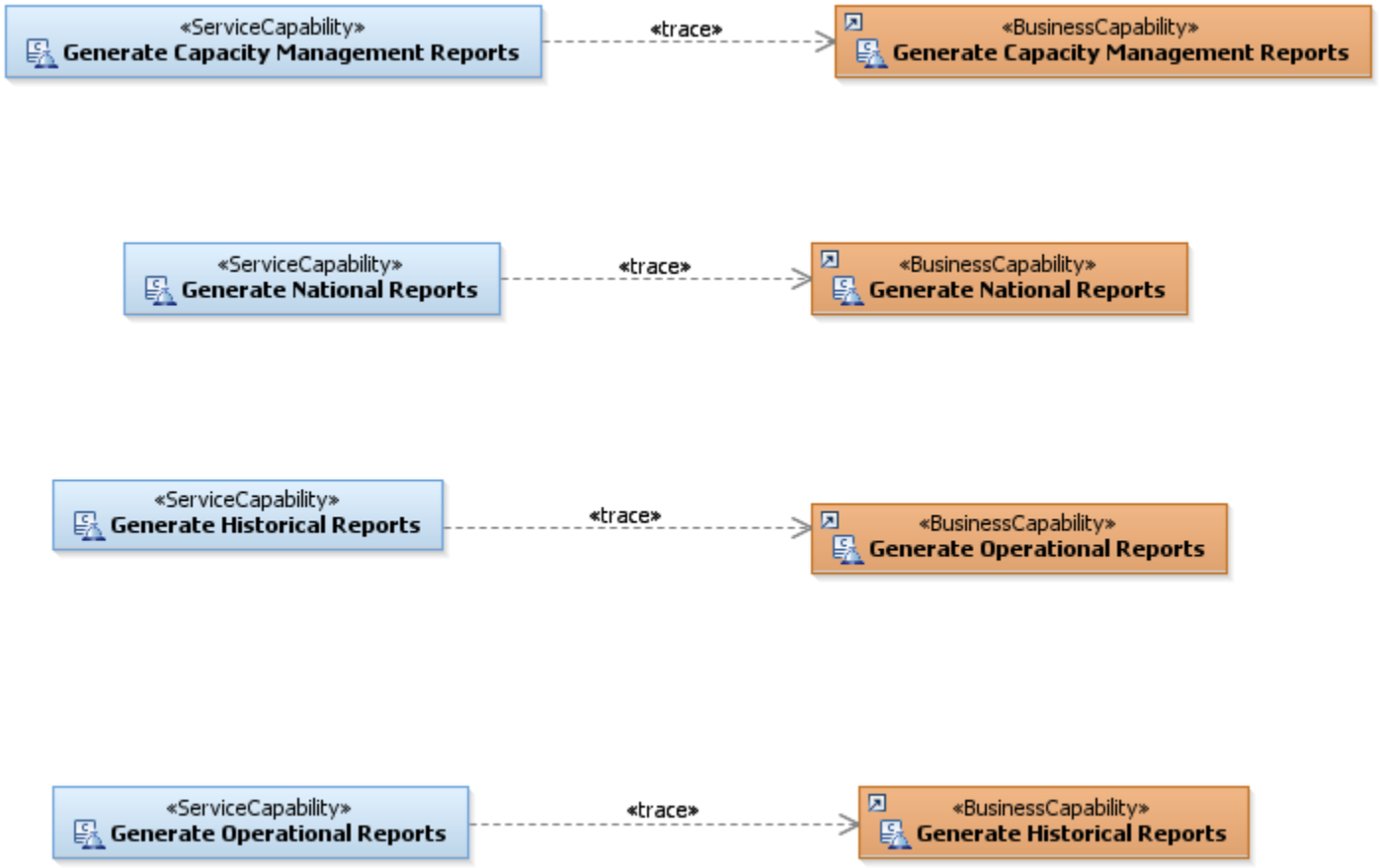

«BusinessCapability»
Medical Appointment Management System (MASS)
«BusinessCapability»
Report Management
«BusinessCapability»
Generate Historical Reports
«BusinessCapability»
Generate National Reports
«BusinessCapability»
Generate Capacity Management Reports
«BusinessCapability»
Generate Operational Reports
«BusinessCapability»
Veteran Information Management
«BusinessCapability»
Create/Maintain Veteran Preference and Special Needs
«BusinessCapability»
View/Maintain Existing VHA Veteran Information
«BusinessCapability»
Access VA/VHA Veteran Enrollment and Benefits
«BusinessCapability»
Coordinate Associated and Occasion of Services
«BusinessCapability»
Coordinate External Health Care Services
«BusinessCapability»
Coordinate Medical Records
«BusinessCapability»
Coordinate Other VA Health Care Services
«BusinessCapability»
Coordinate Occasion of Services
«BusinessCapability»
Coordinate Alternative Means of Delivering Care
«BusinessCapability»
Request Management
«BusinessCapability»
Perform Request Oversight Activities
«BusinessCapability»
Process Request
«BusinessCapability»
Process Request List
«BusinessCapability»
Encounter of Care Management
«BusinessCapability»
Capture Encounter Events
«BusinessCapability»
Perform Check-in Process
«BusinessCapability»
PerformEncounter of Care Oversight Activities
«BusinessCapability»
Perform Check-out Activities
«BusinessCapability»
MASS Setup (Configuration)
«BusinessCapability»
Setup/Maintain Resource Availability
«BusinessCapability»
Setup/Maintain Scheduling System Access
«BusinessCapability»
Setup/Maintain Scheduling Business Rules, Alert and Workflow
«BusinessCapability»
Setup/Maintain Resource Availability
«BusinessCapability»
Setup/Maintain Scheduling Notification Templates
«BusinessCapability»
Setup/Maintain Care Coordination Agreements

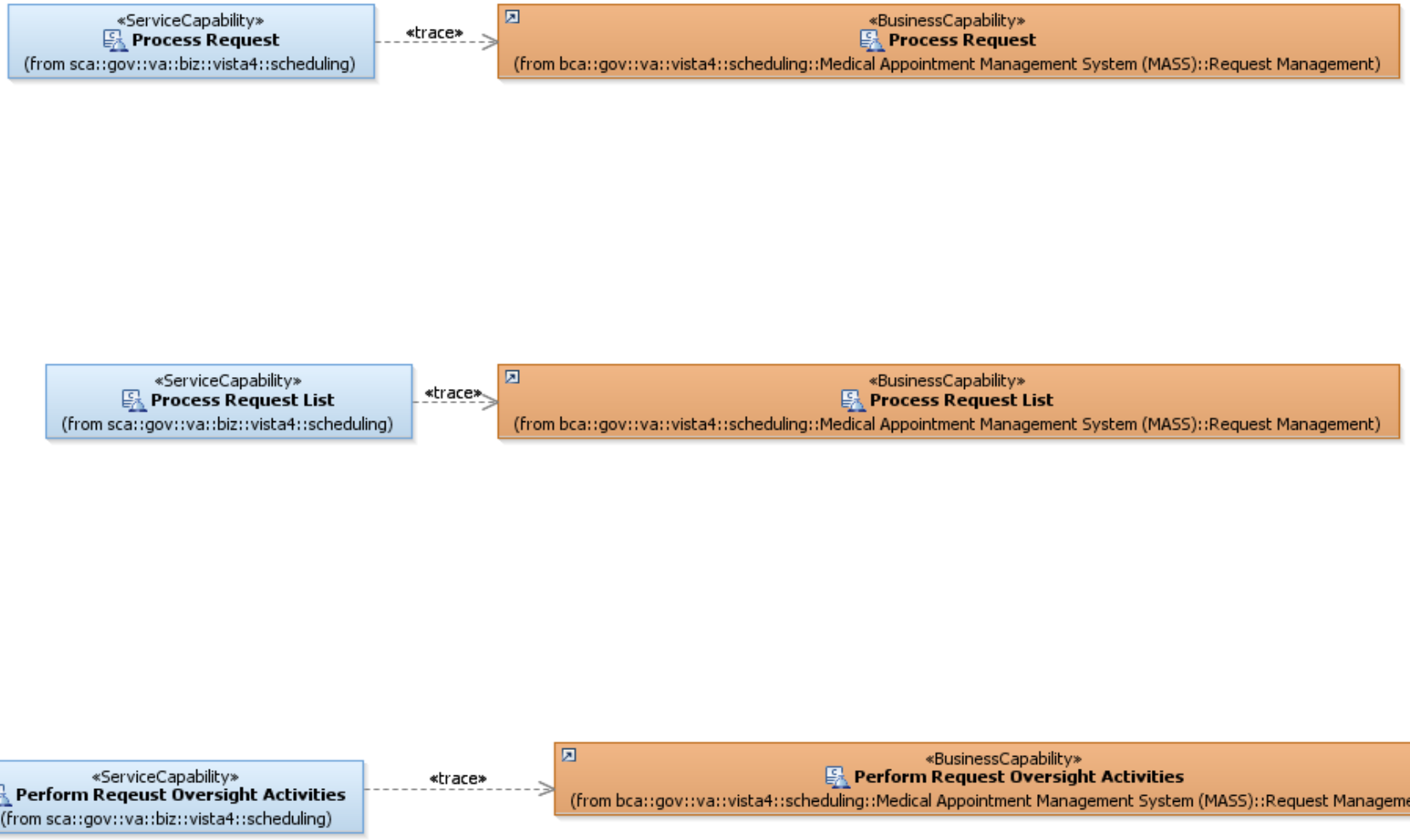

«ApplicationCapability»
Scheduling Application
(from sca::gov::va::app::vista4::scheduling)
«ApplicationCapability»
VistA Scheduling
(from sca::gov::va::app::vista4::scheduling)
«trace»
«trace»
«ApplicationCapability»
Scheduling Administration v1
(from sca::gov::va::app::vista4::scheduling)
«trace»
«BusinessCapability»
Medical Appointment Management System (MASS)
(from bca::gov::va::vista4::scheduling)
«trace»
«trace»
«ApplicationCapability»
Scheduling Attended Person Search Component
(from sca::gov::va::app::vista4::scheduling)
«ApplicationCapability»
Scheduling Notification Administration
(from sca::gov::va::app::vista4::scheduling)


«ServiceCapability»
Make Appointment
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Make Appointment
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Appointment Management)
«ServiceCapability»
Perform Appointment Oversight Activities
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Perform Appointment Oversight Activities
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Appointment Management)
«ServiceCapability»
Process Appointment Reschedule and Cancellation
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Process Appointment Reschedule and Cancellation
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Appointment Management)
«ServiceCapability»
Process Notifications
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Process Notifications
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Appointment Management)


«ServiceCapability»
Coordinate Other VA Health Care Services
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Coordinate Other VA Health Care Services
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Coordinate Associated and Occasion of Services)
«ServiceCapability»
Coordinate Occasion of Services
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Coordinate Occasion of Services
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Coordinate Associated and Occasion of Services)
«ServiceCapability»
Coordinate External Health Care Services
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Coordinate External Health Care Services
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Coordinate Associated and Occasion of Services)
«ServiceCapability»
Coordinate Alternate Means of Delivering
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Coordinate Alternative Means of Delivering Care
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Coordinate Associated and Occasion of Services)
«ServiceCapability»
Coordinate Medical Records
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Coordinate Medical Records
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Coordinate Associated and Occasion of Services)

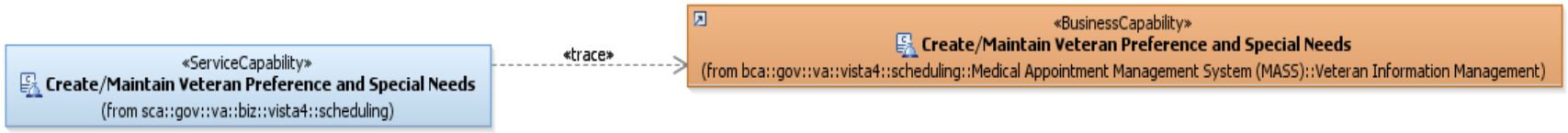

«ServiceCapability»
Capture Encounter Events
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Capture Encounter Events
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Encounter of Care Management)
«ServiceCapability»
Perform Check-in Process
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Perform Check-in Process
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Encounter of Care Management)
«ServiceCapability»
Perform Check-out Activities
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Perform Check-out Activities
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Encounter of Care Management)
«ServiceCapability»
Perform Encounter of Care Oversight Activities
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
PerformEncounter of Care Oversight Activities
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Encounter of Care Management)


«ServiceCapability»
Generate Capacity Management Reports
«trace»
«BusinessCapability»
Generate Capacity Management Reports
«ServiceCapability»
Generate National Reports
«trace»
«BusinessCapability»
Generate National Reports
«ServiceCapability»
Generate Historical Reports
«trace»
«BusinessCapability»
Generate Operational Reports
«ServiceCapability»
Generate Operational Reports
«trace»
«BusinessCapability»
Generate Historical Reports


«ServiceCapability»
Process Request
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Process Request
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Request Management)
«ServiceCapability»
Process Request List
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Process Request List
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Request Management)
«ServiceCapability»
Perform Reqeust Oversight Activities
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Perform Request Oversight Activities
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Request Management)

«ServiceCapability»
Assess VA\VHA Enrollment and Benefits
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Access VA/VHA Veteran Enrollment and Benefits
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Veteran Information Management)

«ServiceCapability»
View and Maintain Existing VHA Veteran Information
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
View/Maintain Existing VHA Veteran Information
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Veteran Information Management)


«ServiceCapability»
Create/Maintain Veteran Preference and Special Needs
(from sca::gov::va::biz::vista4::scheduling)
«trace»
«BusinessCapability»
Create/Maintain Veteran Preference and Special Needs
(from bca::gov::va::vista4::scheduling::Medical Appointment Management System (MASS)::Veteran Information Management)