**VA Online Scheduling (VAOS) Service 4.x SRVDD**



# VA Online Scheduling (VAOS) Service Design Document (SRVDD)

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The Service Design Document (SRVDD) provides three chief design perspectives: Conceptual, Logical, and Physical for processes and data. This document will be updated during the implementation life cycle.

# Mobile Service Information

## - General Information

|  |  |
| --- | --- |
| **Software Name** | VA Online Scheduling (VAOS) Service |
| **Project Increment / Release Designation:** | var-resources |
| **Product Version** | 4.5.2 |
| **Source Repository** | [https://coderepo.mobilehealth.va.gov/projects/VAR/repos/var-](https://coderepo.mobilehealth.va.gov/projects/VAR/repos/var-resources/browse?at=refs%2Fheads%2Frelease%2F4.5) [resources/browse?at=refs%2Fheads%2Frelease%2F4.5](https://coderepo.mobilehealth.va.gov/projects/VAR/repos/var-resources/browse?at=refs%2Fheads%2Frelease%2F4.5) |
| **Enclave(s)** | Veteran Provider |



**Software Type**

Service App

Background Process Other

* 1. **- Data Storage and Classification**



|  |  |
| --- | --- |
| **Question** | **Response** |
| Persists data in VAMF? | Yes No  **Database Type**  Mongo Oracle Other  **Type of Data in VAMF**  Application-Specific PGD  Other Shared Data |
| Reads/Writes data from VA Enterprise source directly? (example VistA, ADR, HDR, etc.)  This relates to this service directly, not through another shared service. | Reads - List sources: CDW Writes - List sources:  Both - List sources: VistA Type of Data:  PII SPI  Non-sensitive |

1. **Application Design Perspective**



* 1. **- Design Principles and Patterns**

Single Page Application - The Single Page Application design pattern will be leveraged, so web page content will not be routed through these web services

Application Specific Dependencies - External REST service dependencies are managed through application specific resource directory (resource-directory.json) packaged with the application. Each REST service endpoint is defined with a "title" and "href". For convenience, all the dependencies are identified in the VAMF Interfaces section.

REST Conventions - The application works with data using HTTP verbs. GET is used for retrieving data, POST is used for creating or processing data, PUT is used for updating data and DELETE is used for deleting data.

Exception Handling using HTTP standards - Exception handling is performed based on HTTP status codes. Bad Request (status code

400) is handled at the Model or Resource level. Internal Server Error (status code 500) is handled globally within the application. Leveraging common VAMF Shared Services such as API Gateway, User Services, and MDWS2VIA.

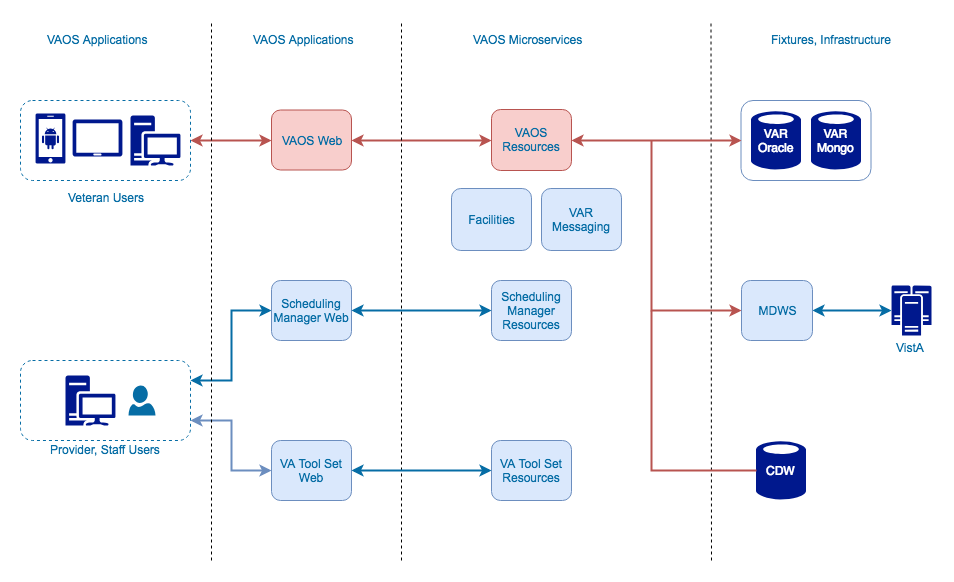
## - Conceptual Overview

Major components of the **VAR Resources** application are implemented as REST services and are depicted in the following Component Diagrams. Description of how this exists in the application architecture and related workflows are also depicted.

### - High-Level Component Diagram - Current as of August 15, 2018\*\*

Summary:

Component diagram depicting how the **VA Online Scheduling Service (VAR Resources)** connects across software in the VAOS Scheduling Suite is illustrated below. ***VAR Web Application*** receives input from Veteran Users and requests appointments and other settings data through ***V AOS Shared Resources*** to include ***VAR Resources*** (this application). ***VAOS Web Application*** also accesses ***MDWS*** for EHR and other Patient information, as well as appointment slots for booking appointments and servicing requests. Site-specific settings for this application are retrieved from ***VAOS Shared Resources*** as configured through ***VA Tool Set***.

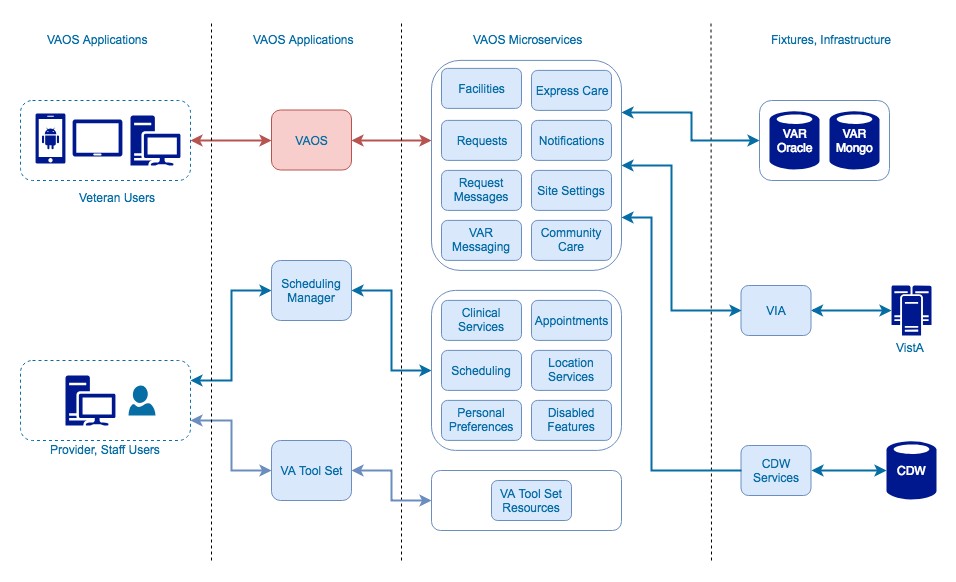


Footnotes:

\*\* - VAOS Resources will be decomposed into microservices by the completion of 4.x. For more information on the proposed components and diagrams, please refer to the VAR Web 4.x SDD. Further SRVDDs will be completed as the design is solidified and the work prioritized.

### - Component Overview - through completion of VAR 4.x

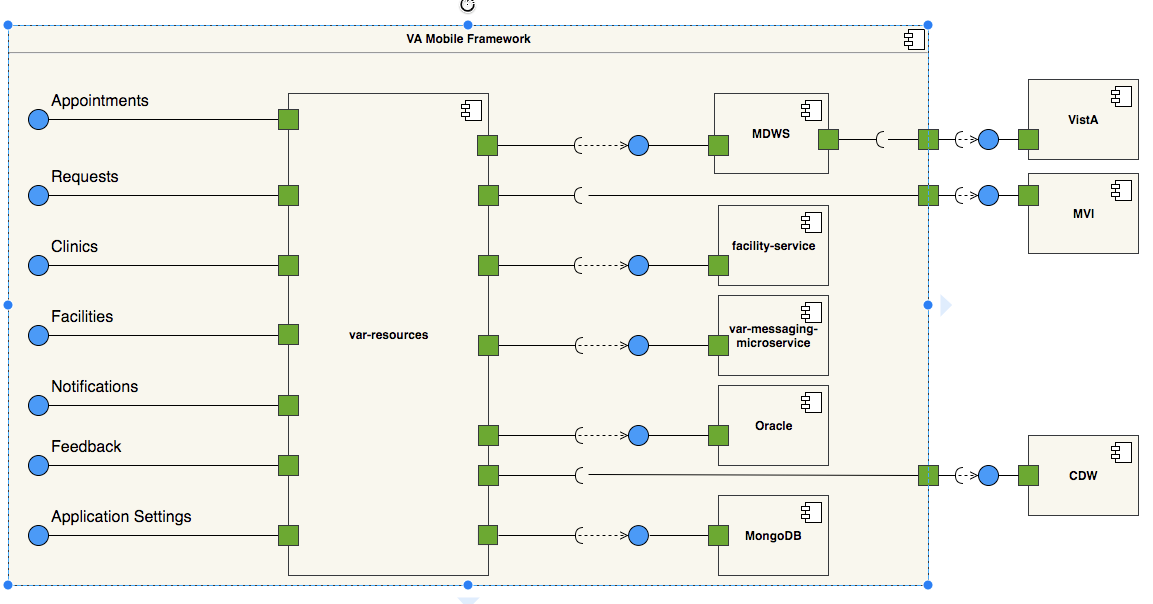
The following diagram illustrates the to-be architecture through the completion of VAR 4.x. The primary differences here are the use of ***VIA*** for EHR and other Patient Information, and the use of ***VAOS Microsevices*** in place of ***Shared Resources*** to retrieve VAR-centric data and settings.



### - Detailed Service-Oriented Component Diagram

Summary: **VAR Resources** accepts requests for resources in the the domains on the left side of the diagram. Data points to satisfy reads and writes to each domain are detailed on the right side. **VAR Resources** pulls facility information from ***Facility Service***, retrieves booking and patient information from ***VistA*** as a data source through **MDWS**, and also queries for patient identifier correlation using ***MVI***, and connects to ***CDW***

. ***VAOS Resources*** maintains request information and other settings through ***Mongo*** and ***Oracle***.



### 2.2.3 - Planned Decomposition of Veteran Appointment Request Service (this application)

By the conclusion of 3.x, Scheduling Manager Service will be rearchitected into a series of microservices to meet modernization requirements outlined by the VAMF Architecture Board, and the overall vision of a scalable architecture. A summary of the services is outlined below. All domains in the **Veteran Appointment Request Service** have been covered in this decomposition and will also complement domains in the ***VAR Microservices*** decomposition plan.

1. VAOS Clinical Services Microservice - all operations related to clinic settings and information
2. VAOS Appointments Microservice - all operations related to viewing booked appointments and direct scheduling
3. VAOS Requests Microservice - all operations specific to creating, updating, and cancelling appointment requests
4. VAOS Notifications Microservice - all notification-related settings and preferences for veterans
5. VAOS Messages MIcroservice - all operations related to creating messages to and from veterans and providers in appointment requests
6. VAOS Express Care Microservice - all auxillary operations related to interfacing express care requests and details
7. VAOS Site Settings Microservice - all operations for viewing and updating site-specific settings for VAR

## 2.3 - Logical Design Overview

### 2.3.1 - REST Endpoint Breakdown

|  |  |  |  |
| --- | --- | --- | --- |
| **Appointments** | | | |
|  | | | |
|  | GET | /v4/direct-scheduling/site/{site-code}/patient/  {assigning-authority}/{patient-id}/available- appointment-slots |  |
| POST | /v4/direct-scheduling/site/{site-code}/patient/  {assigning-authority}/{patient-id}/booked- appointments |
| GET | /v4/direct-scheduling/site/{site-code}/patient/  {assigning-authority}/{patient-id}/booked- appointments |
| GET | /v4/direct-scheduling/patient/{assigning- authority}/{patient-id}/booked-cc-appointments |
| GET | /v4/direct-scheduling/site/{site-code}/patient/  {assigning-authority}/{patient-id}/cancel-reasons- list |
| PUT | /v4/direct-scheduling/site/{site-code}/patient/  {assigning-authority}/{patient-id}/cancel- appointment |
| GET | /v4/direct-scheduling/site/{site-code}/logout |
| GET | /v4/direct-scheduling/institutions |
| GET | /v4/direct-scheduling/site/{site-code}/patient/  {assigning-authority}/{patient-id}/direct-eligibility  /visited-in-past-months |
| GET | /v4/direct-scheduling/site/{site-code}/patient/  {assigning-authority}/{patient-id}/request- eligibility/visited-in-past-months |
| GET | /v4/direct-scheduling/patient/{assigning- authority}/{patient-id}/pact-team |
| GET | /v4/direct-scheduling/patient/{assigning- authority}/{patient-id}/request-limit |
| GET | /v4/direct-scheduling/parent-sites |
|  | | | |
|  | | | |

**Facilities**

|  |  |
| --- | --- |
| GET | /v4/clinic-service/patient/{assigning-authority}/  {patient-id}/site/{site-code}/clinic-profile/{clinic-id} |
| GET | /v4/clinical-services/types-of-care |
| GET | /v4/clinical-services/patient/{assigning-authority}/  {patient-id}/clinics |

|  |  |  |  |
| --- | --- | --- | --- |
| **Requests** | | | |
|  | | | |
|  | GET | /v4/appointment-service/patient/{assigning- authority}/{patient-id}/appointments |  |
| POST | /v4/appointment-service/patient/{assigning- authority}/{patient-id}/appointments |
| GET | /v4/appointment-service/patient/{assigning- authority}/{patient-id}/appointment-requests  /system/{system-id}/id/{appointment-request-id}  /messages |
| POST | /v4/appointment-service/patient/{assigning- authority}/{patient-id}/appointment-requests  /system/{system-id}/id/{appointment-request-id}  /messages |
| POST | /v4/appointment-service/patient/{assigning- authority}/{patient-id}/appointment-requests  /system/{system-id}/id/{appointment-request-id}  /messages/read |
| GET | /v4/appointment-service/patient/{assigning- authority}/{patient-id}/appointments/system/  {system-id}/id/{appointment-request-id} |
| PUT | /v4/appointment-service/patient/{assigning- authority}/{patient-id}/appointments/system/  {system-id}/id/{appointment-request-id} |
| POST | /v4/appointment-service/patient/{assigning- authority}/{patient-id}/community-care- appointment |
|  | | | |
|  | | | |
| **Clinics** | | | |
|  | | | |

|  |  |
| --- | --- |
| GET | /v4/facility-service/facilities |
| GET | /v4/facility-service/supported-facilities |

|  |  |  |  |
| --- | --- | --- | --- |
| **Notifications** | | | |
|  | | | |
|  | GET | /v4/patient/{assigning-authority}/{patient-id}  /preference |  |
| PUT | /v4/patient/{assigning-authority}/{patient-id}  /preference |
| GET | /v4/notification-service/patient/{assigning- authority}/{patient-id}/notifications |
| PUT | /v4/notification-service/patient/{assigning- authority}/{patient-id}/notifications/{notification-id}  /read |
| DELETE | /v4/notification-service/patient/{assigning- authority}/{patient-id}/notifications/{notification-id} |
|  | | | |
|  | | | |
| **Feedback** | | | |
| POST /v4/appointment-service/feedback | | | |

|  |  |
| --- | --- |
| GET | /v4/api-keys |
| GET | /v4/community-care-services/type-of-cares |
| GET | /v4/custom-messages |
| GET | /v4/disabled-features |
| GET | /v4/express-care-service/reasons |

1. **Physical Perspective**

**Application Settings**

This section calls for information gathered at the last development sprint. This design view describes how and where a service is deployed to one or more environments, such as test, dev-int, production, etc. The physical view should illustrate how the deployed entity is packaged, with which entities it is integrated and exchanges messages, and the physical environment in which the implementation is installed and configured.

## - Deployment Architecture

Application app.yml - [https://coderepo.mobilehealth.va.gov/projects/VAR/repos/var-resources/browse/app.yml?at=refs%2Fheads%2Frelease%](https://coderepo.mobilehealth.va.gov/projects/VAR/repos/var-resources/browse/app.yml?at=refs%2Fheads%2Frelease%2F4.2) [2F4.2](https://coderepo.mobilehealth.va.gov/projects/VAR/repos/var-resources/browse/app.yml?at=refs%2Fheads%2Frelease%2F4.2)

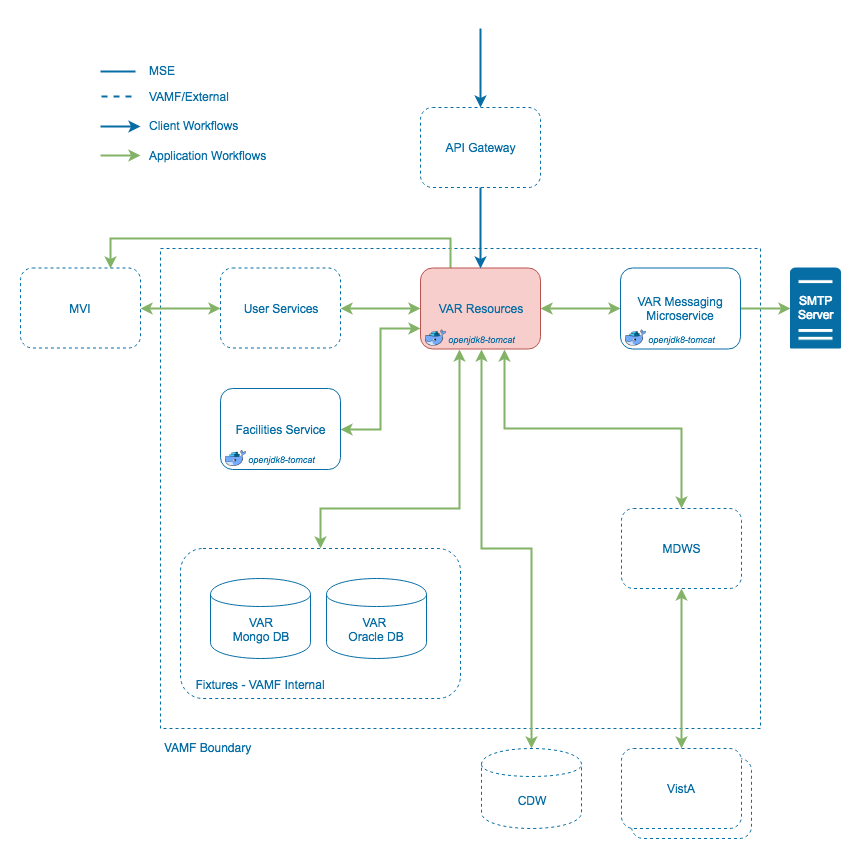
Application Dockerfile - https://coderepo.mobilehealth.va.gov/projects/VAR/repos/var-resources/browse/Dockerfile?at=release/4.2

## - Deployment Diagrams

This section highlights a complete list of the deployment diagrams, in order of completion and delivery of the software. The first set is based on incremental releases. The last is the ideal planned architecture based on evolving requirements and targeted resolution of technical debt.

### - Deployment Diagram, Current as of March 28, 2018

Summary:



# Technology Stack and Service Dependencies

## - Technology Stack Overview

The following is a running list of all major technologies chosen to build out the **Scheduling Manager Service** application.

|  |  |  |
| --- | --- | --- |
| **Technologies, Libraries, and Tools Used in the App** | **Version** | **On the TRM? (If not, provide a link to the waiver)** |
| Java Runtime Environment | 8 | Yes |
| Spring Framework | 4.2.5 | Yes |
| Jersey | 2.22.2 | Yes |
| Hibernate | 3.x | Yes |
| MongoDB | 3.0.x | Yes |
| Docker | 17.09.1-ce | Yes |
| Tomcat | 8.0.56 | Yes |

## - VA Interfaces

The **VAR Resources** application has dependencies on the following existing VA interfaces:

### - MDWS 3.2.8 - Scheduling Service

**SOAP**

**MDWS 3.2.8**

|  |  |  |
| --- | --- | --- |
| **Interface Name** | **HTTP**  **Method** | **SchedulingSvc.asmx** |
| Make Appointment | POST | /SchedulingSvc/makeAppointment |
| Cancel Appointment | POST | /SchedulingSvc/cancelAppointment |
| Get Booked Appointments | POST | /SchedulingSvc/getAppointmentsBookingNotes |
| Get Available Slots | POST | /SchedulingSvc  /getClinicSchedulingDetailsByDateRange |
| Get Cancel Reason List | POST | /SchedulingSvc/getCancellationReasons |

* + 1. **- CDW**

**4.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CDW (MS SQL DB)** | | | | | | |
|  | | | | | | |
|  | **Interface Name** | **Object Type** | **Data Used by Mobile App** | **Data Retrieved - provide specific data elements used by this app** | **Notes/References** |  |
| **OIA\_MobileHealt h.App. ap\_GetActiveCli nics\_v2** | Procedure | Active Clinics | Clinics location, primary and secondary stop codes. |  |
| **OIA\_MobileHealt h.App. ap\_GetPtActiveT eamsMembers\_v4** | Procedure | PACT Team Members | Primary Care PACT Team providers data. |  |
| **OIA\_MobileHealt h.App. ap\_GetPtActiveT eamsClinics\_v4** | Procedure | PACT Team Clinics | Primary Care PACT Team clinics data. |  |
| **OIA\_MobileHealt h.App. fn\_VAR\_BuildSto pcodeTable** | Function | None. | None. | This is a utility function used internally in CDW by the other stored procedures. |
| **OIA\_MobileHealt h.App. ap\_ApptRecallRe mindersByDate\_v1** | Procedure | Recall Reminders | Data for generating recall appointment reminders. | Functionality delivered since VAR Resources 3.1.0 |
| **OIA\_MobileHealth. App. ap\_GetChildFaciliti es\_v2** | Procedure | Child Facilities | Data for Child facilities |  |
|  | | | | | | |
| **2.3 - VA Mobile Infrastructure and Microservices**  **VAR Resources** application has *direct dependencies* on the following VA Mobile existing interfaces: | | | | | | |

The

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dependency** | **Version** | **Domain** | **Description** | **SDD** |
| API Gateway | 1.x | VAMF NextGen Infrastructure | Access to VA domain services | [VDD Link](https://wiki.mobilehealth.va.gov/pages/viewpage.action?pageId=63841495) |
| Consul (HashiCorp) |  | VAMF NextGen Infrastructure | Configuration data for environment (database connection information, etc) |  |
| User Services | 1.7.x | VAMF NextGen Infrastructure | Login, Session, Patient Information | [SRVDD Link](https://wiki.mobilehealth.va.gov/pages/viewpage.action?pageId=61375407) |
| MDWS to VIA Adapter | 1.x | VAMF NextGen Infrastructure | Access to VIA Services | [SRVDD Link](https://wiki.mobilehealth.va.gov/display/VDSMS/MDWS2VIA%2BADAPTER%2BService%2B-%2BSRVDD) |

|  |  |  |
| --- | --- | --- |
| **Interface Name** | **Method** | **Endpoint** |
| jwt | GET | /jwt/ |

|  |  |  |
| --- | --- | --- |
| **Interface Name** | **Method** | **Endpoint** |
| Login | GET | /users/v1/login |
| Logout | GET | /users/v1/logout |
| MHP User | GET | /users/v1/session/mhpuser |
| Session | GET | /users/v1/session |
| Patient Identifiers | GET | /users/v1/session/identifiers.json |
| Token | GET | /users/v1/session/jwt |

## - VAMF Shared Services

**REST Endpoints**

**JWT Endpoints**

**User Session Endpoints**

The **Veteran Appointment Request Service** has *direct dependencies* on the following VAMF Shared Services developed in line with Scheduling Manager on the same contract:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Interface Name** | **Version** | **Domain** | **Description of Role** | **SDD** |
| Veteran Video Connect Service | 3.x | VAMF Shared Services | Connector to Video Visits Service | *SDD Missing or Outdated* |
| Video Visits Service | 3.x | VAMF Shared Services | Booking of Express Care Appointments | *SDD Missing or Outdated* |

## - VAOS Interfaces

The **Veteran Appointment Request Service** has *direct dependencies* on the following VAOS interfaces developed in line with Scheduling Manager on the same contract:

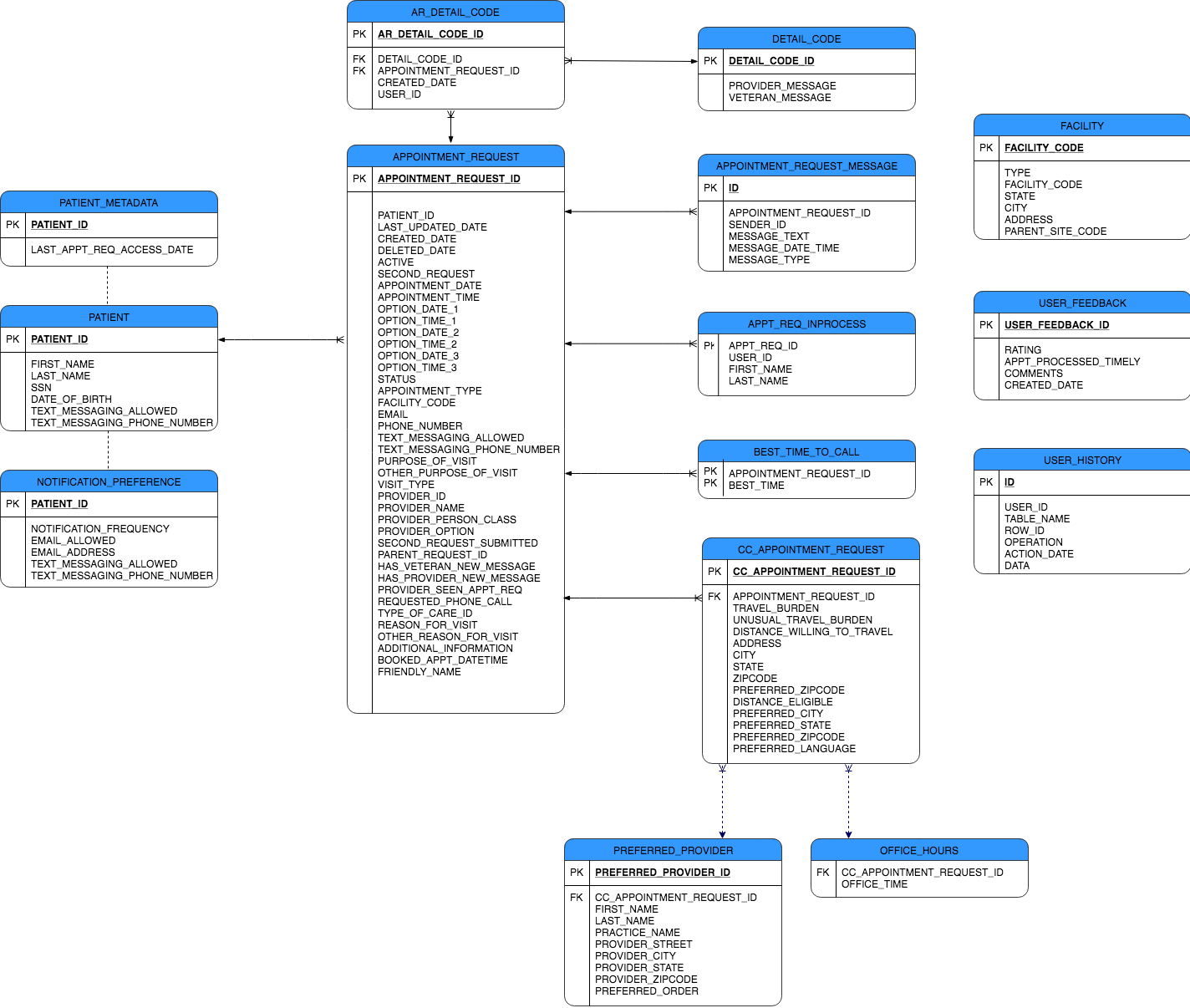
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Interface Name** | **Version** | **Domain** | **Description of Role** | **SDD** |
| VAR Messaging Microservice | 2.x | VAOS Services | Application notifications and recall reminders | [SRVDD Link](https://wiki.mobilehealth.va.gov/display/ARA/VAR%2BMessaging%2BMicroservice%2B2.0.x%2B-%2BSRVDD) |
| Facility Service | 2.x | VAOS Services | Retrieval of facilities supporting VAR functionality | [SRVDD Link](https://wiki.mobilehealth.va.gov/display/ARA/Facility%2BService%2B2.0.x%2BSRVDD) |

# Data Model

Data models for Oracle and MongoDB are described below.

## Oracle Data Architecture

Scheduling Manager Service operates on the Oracle database schema VARDB which is connected to the Veteran Appointment Request (VAR) application. The Entity Relationship Diagram is shown below. Details of each Oracle table in the database are provided in the following tables.



|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Oracle** | | | | | | | | |
| **APPOINTMENT\_REQUEST** | | | | | | | | |
|  | **COLUMN\_NAME** | **DATA\_TYPE** | **NULLAB LE** | **DATA\_DEFA ULT** | **COLUMN**  **\_ID** | **PK?** | **COMMEN TS** |  |
| APPOINTMENT\_REQUEST\_ID | VARCHAR2(32 BYTE) | No |  | 1 | Y |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | PATIENT\_ID | VARCHAR2(255 BYTE) | No |  | 2 |  |  |  |
| LAST\_UPDATED\_DATE | TIMESTAMP(6) | No |  | 3 |  |  |
| CREATED\_DATE | TIMESTAMP(6) | No |  | 4 |  |  |
| DELETED\_DATE | TIMESTAMP(6) | Yes |  | 5 |  |  |
| ACTIVE | NUMBER(1,0) | No |  | 6 |  |  |
| SECOND\_REQUEST | NUMBER(1,0) | No |  | 7 |  |  |
| APPOINTMENT\_DATE | VARCHAR2(50 BYTE) | Yes |  | 8 |  |  |
| APPOINTMENT\_TIME | VARCHAR2(50 BYTE) | Yes |  | 9 |  |  |
| OPTION\_DATE\_1 | VARCHAR2(50 BYTE) | No |  | 10 |  |  |
| OPTION\_TIME\_1 | VARCHAR2(50 BYTE) | No |  | 11 |  |  |
| OPTION\_DATE\_2 | VARCHAR2(50 BYTE) | No |  | 12 |  |  |
| OPTION\_TIME\_2 | VARCHAR2(50 BYTE) | No |  | 13 |  |  |
| OPTION\_DATE\_3 | VARCHAR2(50 BYTE) | No |  | 14 |  |  |
| OPTION\_TIME\_3 | VARCHAR2(50 BYTE) | No |  | 15 |  |  |
| STATUS | VARCHAR2(255 BYTE) | No |  | 16 |  |  |
| APPOINTMENT\_TYPE | VARCHAR2(255 BYTE) | No |  | 17 |  |  |
| FACILITY\_CODE | VARCHAR2(100 BYTE) | No |  | 18 |  |  |
| EMAIL | VARCHAR2(255 BYTE) | Yes |  | 19 |  |  |
| PHONE\_NUMBER | VARCHAR2(255 BYTE) | No |  | 20 |  |  |
| TEXT\_MESSAGING\_ALLOWED | NUMBER(1,0) | No |  | 21 |  |  |
| TEXT\_MESSAGING\_PHONE\_N UMBER | VARCHAR2(255 BYTE) | Yes |  | 22 |  |  |
| PURPOSE\_OF\_VISIT | VARCHAR2(255 BYTE) | Yes |  | 23 |  |  |
| OTHER\_PURPOSE\_OF\_VISIT | VARCHAR2(100 BYTE) | Yes |  | 24 |  |  |
| VISIT\_TYPE | VARCHAR2(40 BYTE) | Yes |  | 25 |  |  |
| PROVIDER\_ID | VARCHAR2(255 BYTE) | Yes |  | 26 |  |  |
|  | | | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **NULLAB LE** | **DATA\_DEFAU LT** | **COLUMN\_ ID** | **PK?** | **COMMEN TS** |
| ID | VARCHAR2(32 BYTE) | No |  | 1 | Y |  |
| APPOINTMENT\_REQUES T\_ID | VARCHAR2(32 BYTE) | No |  | 2 |  |  |
| SENDER\_ID | VARCHAR2(255 BYTE) | No |  | 3 |  |  |
| MESSAGE\_TEXT | VARCHAR2(255 BYTE) | No |  | 4 |  |  |
| MESSAGE\_DATE\_TIME | TIMESTAMP(6) | No |  | 5 |  |  |
| MESSAGE\_TYPE | VARCHAR2(32 BYTE) |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | PROVIDER\_NAME | VARCHAR2(255 BYTE) | Yes |  | 27 |  |  |  |
| PROVIDER\_PERSON\_CLASS | VARCHAR2(255 BYTE) | Yes |  | 28 |  |  |
| PROVIDER\_OPTION | VARCHAR2(100 BYTE) | Yes |  | 29 |  |  |
| SECOND\_REQUEST\_SUBMITT ED | NUMBER(1,0) | No |  | 30 |  |  |
| PARENT\_REQUEST\_ID | VARCHAR2(32 BYTE) | Yes |  | 31 |  |  |
| HAS\_VETERAN\_NEW\_MESSA GE | NUMBER(1,0) | Yes | 0 | 32 |  |  |
| HAS\_PROVIDER\_NEW\_MESSA GE | NUMBER(1,0) | Yes | 0 | 33 |  |  |
| PROVIDER\_SEEN\_APPT\_REQ | NUMBER(1,0) | Yes | 0 | 34 |  |  |
| REQUESTED\_PHONE\_CALL | NUMBER(1,0) | Yes | 0 | 35 |  |  |
| TYPE\_OF\_CARE\_ID | VARCHAR2(50 BYTE) | Yes |  | 36 |  |  |
| REASON\_FOR\_VISIT | VARCHAR2 (50 BYTE) | Yes |  | 37 |  |  |
| OTHER\_REASON\_FOR\_VISIT | VARCHAR2 (255 BYTE) | Yes |  | 38 |  |  |
| ADDITIONAL\_INFORMATION | VARCHAR2 (255 BYTE) | Yes |  | 39 |  |  |
| BOOKED\_APPT\_DATETIME | TIMESTAMP(6) | Yes |  | 40 |  |  |
| FRIENDLY\_NAME | VARCHAR2 (255 BYTE) | Yes |  | 41 |  |  |
| **APPOINTMENT\_REQUEST\_MESSAGE** | | | | | | | | |

**APPT\_REQ\_INPROCESS**

Used for locking an appointment while someone is working on a particular request. Used in SCV.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **NULLABLE** | **DATA\_DEFAULT** | **COLUMN\_ID** | **PK?** | **COMMENTS** |
| APPT\_REQ\_ID | VARCHAR2(32 BYTE) | No |  | 1 | Y |  |
| USER\_ID | VARCHAR2(255 BYTE) | No |  | 2 |  |  |
| FIRST\_NAME | VARCHAR2(255 BYTE) | No |  | 3 |  |  |
| LAST\_NAME | VARCHAR2(255 BYTE) | No |  | 4 |  |  |

**AR\_DETAIL\_CODE**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **NULLAB LE** | **DATA\_DEFAU LT** | **COLUMN\_ ID** | **PK?** | **COMMEN TS** |
| AR\_DETAIL\_CODE\_ID | VARCHAR2(32 BYTE) | No |  | 1 | Y |  |
| DETAIL\_CODE\_ID | VARCHAR2(32 BYTE) | No |  | 2 |  |  |
| APPOINTMENT\_REQUES T\_ID | VARCHAR2(32 BYTE) | No |  | 3 |  |  |
| CREATED\_DATE | TIMESTAMP(6) | No |  | 4 |  |  |
| USER\_ID | VARCHAR2(255 BYTE) | No |  | 5 |  |  |

**BEST\_TIME\_TO\_CALL**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **NULLAB LE** | **DATA\_DEFAU LT** | **COLUMN\_ ID** | **PK?** | **COMMEN TS** |
| APPOINTMENT\_REQUES T\_ID | VARCHAR2(32 BYTE) | No |  | 1 | Y |  |
| BEST\_TIME | VARCHAR2(40 BYTE) | No |  | 2 |  |  |

**CC\_APPOINTMENT\_REQUEST**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **NULLAB LE** | **DATA\_DEFA ULT** | **COLUMN**  **\_ID** | **PK?** | **COMMEN TS** |
| CC\_APPOINTMENT\_REQUE ST\_ID | VARCHAR2(32 BYTE) | No |  | 1 | Y |  |
| APPOINTMENT\_REQUEST\_ID | VARCHAR2(40 BYTE) | No |  | 2 |  | Foreign Key |
| TRAVEL\_BURDEN | NUMBER | No |  | 3 |  |  |
| UNUSUAL\_TRAVEL\_BURDEN | NUMBER | Yes |  | 4 |  |  |
| DISTANCE\_WILLING\_TO\_TR AVEL | NUMBER | No |  | 5 |  |  |
| ADDRESS | VARCHAR2(100 BYTE) | Yes |  | 6 |  |  |
| CITY | VARCHAR2(50 BYTE) | Yes |  | 7 |  |  |
| STATE | VARCHAR2(2 BYTE) | Yes |  | 8 |  |  |
| ZIPCODE | VARCHAR2(5 BYTE) | Yes |  | 9 |  |  |
| DISTANCE\_ELIGIBLE | NUMBER | Yes |  | 10 |  |  |
| PREFERRED\_CITY | VARCHAR2(50 BYTE) | Yes | '' | 11 |  |  |
| PREFERRED\_STATE | VARCHAR2(2 BYTE) | Yes | '' | 12 |  |  |
| PREFERRED\_ZIPCODE | VARCHAR2(10 BYTE) | Yes |  | 13 |  |  |
| PREFERRED\_LANGUAGE | VARCHAR2(100 BYTE) | Yes | 'English' | 14 |  |  |

**DETAIL\_CODE**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **NULLABLE** | **DATA\_DEFAU LT** | **COLUMN\_ID** | **PK?** | **COMMENTS** |
| DETAIL\_CODE\_ID | VARCHAR2(32 BYTE) | No |  | 1 | Y |  |
| PROVIDER\_MESSA GE | VARCHAR2(2000 BYTE) | No |  | 2 |  |  |
| VETERAN\_MESSAGE | VARCHAR2(2000 BYTE) | No |  | 3 |  |  |

**FACILITY**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **NULLABLE** | **DATA\_DEFAULT** | **COLUMN\_ID** | **PK?** | **COMMENTS** |
| NAME | VARCHAR2(100 BYTE) | No |  | 1 |  |  |
| TYPE | VARCHAR2(100 BYTE) | Yes |  | 2 |  |  |
| FACILITY\_CODE | VARCHAR2(100 BYTE) | No |  | 3 | Y |  |
| STATE | VARCHAR2(50 BYTE) | Yes |  | 4 |  |  |
| CITY | VARCHAR2(50 BYTE) | Yes |  | 5 |  |  |
| ADDRESS | VARCHAR2(100 BYTE) | Yes |  | 6 |  |  |
| PARENT\_SITE\_CODE | VARCHAR2(100 BYTE) | No |  | 7 |  |  |

**NOTIFICATION\_PREFERENCE**

Preferences for a Veteran to be notified

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **NULLAB LE** | **DATA\_DEFA ULT** | **COLUMN**  **\_ID** | **PK?** | **COMMEN TS** |
| PATIENT\_ID | VARCHAR2(255 BYTE) | No |  | 1 | Y |  |
| NOTIFICATION\_FREQUENCY | VARCHAR2(255 BYTE) | Yes |  | 2 |  |  |
| EMAIL\_ALLOWED | NUMBER(1,0) | No |  | 3 |  |  |
| EMAIL\_ADDRESS | VARCHAR2(255 BYTE) | Yes |  | 4 |  |  |
| TEXT\_MESSAGING\_ALLOWED | NUMBER(1,0) | No |  | 5 |  |  |
| TEXT\_MESSAGING\_PHONE\_N UMBER | VARCHAR2(255 BYTE) | Yes |  | 6 |  |  |

**OFFICE\_HOURS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **NULLAB LE** | **DATA\_DEFA ULT** | **COLUMN\_ ID** | **PK?** | **COMMEN TS** |
| CC\_APPOINTMENT\_REQUE ST\_ID | VARCHAR2(32 BYTE) | Yes |  | 1 |  | Foreign Key |
| OFFICE\_TIME | VARCHAR2(40 BYTE) | Yes |  | 2 |  |  |

**PATIENT**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **NULLAB LE** | **DATA\_DEFA ULT** | **COLUMN**  **\_ID** | **PK?** | **COMMEN TS** |
| PATIENT\_ID | VARCHAR2(255 BYTE) | No |  | 1 | Y |  |
| FIRST\_NAME | VARCHAR2(100 BYTE) | No |  | 2 |  |  |
| LAST\_NAME | VARCHAR2(100 BYTE) | No |  | 3 |  |  |
| SSN | VARCHAR2(20 BYTE) | No |  | 4 |  |  |
| DATE\_OF\_BIRTH | TIMESTAMP(6) | No |  | 5 |  |  |
| TEXT\_MESSAGING\_ALLOWED | NUMBER(1,0) | No |  | 6 |  |  |
| TEXT\_MESSAGING\_PHONE\_N UMBER | VARCHAR2(255 BYTE) | Yes |  | 7 |  |  |

**PATIENT\_METADATA**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **NULLAB LE** | **DATA\_DEFA ULT** | **COLUMN**  **\_ID** | **PK?** | **COMMEN TS** |
| PATIENT\_ID | VARCHAR2(255 BYTE) | No |  | 1 | Y |  |
| LAST\_APPT\_REQ\_ACCESS\_ DATE | TIMESTAMP(6) | Yes |  | 2 |  |  |

**PREFERRED\_PROVIDER**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **NULLAB LE** | **DATA\_DEFA ULT** | **COLUMN**  **\_ID** | **PK?** | **COMMEN TS** |
| PREFERRED\_PROVIDER\_ID | VARCHAR2(32 BYTE) | No |  | 1 | Y |  |
| CC\_APPOINTMENT\_REQUE ST\_ID | VARCHAR2(32 BYTE) | Yes |  | 2 |  | Foreign Key |
| FIRST\_NAME | VARCHAR2(100 BYTE) | Yes |  | 3 |  |  |
| LAST\_NAME | VARCHAR2(100 BYTE) | Yes |  | 4 |  |  |
| PRACTICE\_NAME | VARCHAR2(100 BYTE) | Yes |  | 5 |  |  |
| PROVIDER\_STREET | VARCHAR2(100 BYTE) | Yes |  | 6 |  |  |
| PROVIDER\_CITY | VARCHAR2(100 BYTE) | Yes |  | 7 |  |  |
| PROVIDER\_STATE | VARCHAR2(2 BYTE) | Yes |  | 8 |  |  |
| PROVIDER\_ZIPCODE | VARCHAR2(5 BYTE) | Yes |  | 9 |  |  |
| PREFERRED\_ORDER | NUMBER | No |  | 10 |  |  |

**USER\_FEEDBACK**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **NULLABLE** | **DATA\_DEFAU LT** | **COLUMN\_I** | **D** PK? | **COMMEN TS** |
| USER\_FEEDBACK\_ID | VARCHAR2(32 BYTE) | No |  | 1 | Y |  |
| RATING | NUMBER(3,0) | No |  | 2 |  |  |
| APPT\_PROCESSED\_TIM ELY | VARCHAR2(32 BYTE) | No |  | 3 |  |  |
| COMMENTS | CLOB | Yes |  | 4 |  |  |
| CREATED\_DATE | TIMESTAMP(6) | No |  | 5 |  |  |

**USER\_HISTORY**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **NULLABLE** | **DATA\_DEFAULT** | **COLUMN\_ID** | **PK?** | **COMMENTS** |
| ID | RAW | No |  | 1 | Y |  |
| USER\_ID | VARCHAR2(255 BYTE) | Yes |  | 2 |  |  |
| TABLE\_NAME | VARCHAR2(255 BYTE) | Yes |  | 3 |  |  |
| ROW\_ID | RAW | Yes |  | 4 |  |  |
| OPERATION | VARCHAR2(255 BYTE) | Yes |  | 5 |  |  |
| ACTION\_DATE | TIMESTAMP(6) | Yes |  | 6 |  |  |
| DATA | CLOB | Yes |  | 7 |  |  |

* 1. **MongoDB Data Architecture**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **MongoDB** | | | | | | |
|  | | | | | | |
|  | **Ref #** | **NoSQL Collection** | **Description of Data** | **Source of Data** | **Sample** |  |
| 1 | **var-utility**. bookedCCAppointm ents | List of all booked appointment data created by Scheduli ng Manager | Staff entry through Scheduling Manager app | [bookedCCAppointm](https://wiki.mobilehealth.va.gov/download/attachments/78682211/bookedCCAppointments.json?version=1&amp;modificationDate=1533056009000&amp;api=v2) [ents.json](https://wiki.mobilehealth.va.gov/download/attachments/78682211/bookedCCAppointments.json?version=1&amp;modificationDate=1533056009000&amp;api=v2) |
| 2 | **var-utility**.clinical- services | List of all clinical services supported by VAR and Scheduling Manager. | Pre-defined and imported using mongoimport utility | [clinical-](https://wiki.mobilehealth.va.gov/download/attachments/64853907/clinical-services.json?version=1&amp;modificationDate=1508177420000&amp;api=v2) [services.json](https://wiki.mobilehealth.va.gov/download/attachments/64853907/clinical-services.json?version=1&amp;modificationDate=1508177420000&amp;api=v2) |
| 3 | **var-utility**. communityCareTyp eOfCares | List of all types of care supported by Community Care appointments in the VAOS application | Pre-defined and imported using mon goimport utility | [communityCareTyp](https://wiki.mobilehealth.va.gov/download/attachments/78682211/communityCareTypeOfCares.json?version=2&amp;modificationDate=1533056484000&amp;api=v2) [eOfCares.json](https://wiki.mobilehealth.va.gov/download/attachments/78682211/communityCareTypeOfCares.json?version=2&amp;modificationDate=1533056484000&amp;api=v2) |
| 4 | **var-utility**.custom- friendly-text | List of Sites (Facilities) and their Friendly Name | Staff entry through VA Tool Set app | [custom-friendly-text.](https://wiki.mobilehealth.va.gov/download/attachments/78682211/custom-friendly-text.json?version=1&amp;modificationDate=1533056573000&amp;api=v2) [json](https://wiki.mobilehealth.va.gov/download/attachments/78682211/custom-friendly-text.json?version=1&amp;modificationDate=1533056573000&amp;api=v2) |
| 5 | **var-utility**.custom- messages | Facility custom texts displayed on the VAR application input screen for specific input fields | Staff entry through VA Tool Set app | [custom-](https://wiki.mobilehealth.va.gov/download/attachments/63840829/custom-messages.json?version=2&amp;modificationDate=1498135957901&amp;api=v2) [messages.json](https://wiki.mobilehealth.va.gov/download/attachments/63840829/custom-messages.json?version=2&amp;modificationDate=1498135957901&amp;api=v2) |
| 6 | **var-utility**. directBookingEligibili tyCriteria | List of Sites (Facilities) that allow veterans to directly book to their site code | Pre-defined and imported using mongoimport utility | [directBookingEligibili](https://wiki.mobilehealth.va.gov/download/attachments/78682211/directBookingEligibilityCriteria.json?version=2&amp;modificationDate=1533057576000&amp;api=v2) [tyCriteria.json](https://wiki.mobilehealth.va.gov/download/attachments/78682211/directBookingEligibilityCriteria.json?version=2&amp;modificationDate=1533057576000&amp;api=v2) |
| 7 | **var-utility**. expressCareReason | List of reasons a veteran can choose from when choosing express care as their type of care | Pre-defined and imported using mon goimport utility | [expressCareReason](https://wiki.mobilehealth.va.gov/download/attachments/78682211/expressCareReason.json?version=1&amp;modificationDate=1533057383000&amp;api=v2)  [.json](https://wiki.mobilehealth.va.gov/download/attachments/78682211/expressCareReason.json?version=1&amp;modificationDate=1533057383000&amp;api=v2) |
| 8 | **var-utility**. requestEligibilityCrit eria | List of Sites (Facilities) and their configuration that allow veterans to create requests | Staff entry through VA Tool Set app | [requestEligibilityCrit](https://wiki.mobilehealth.va.gov/download/attachments/78682211/requestEligibilityCriteria.json?version=1&amp;modificationDate=1533057590000&amp;api=v2) [eria.json](https://wiki.mobilehealth.va.gov/download/attachments/78682211/requestEligibilityCriteria.json?version=1&amp;modificationDate=1533057590000&amp;api=v2) |
| 9 | **var-utility**. siteSupportingVAR | List of Sites (Facilities) supporting the VAR application | Pre-defined and imported using mongoimport utility | [sites-](https://wiki.mobilehealth.va.gov/download/attachments/62197454/sites-supporting-var.json?version=1&amp;modificationDate=1493062810000&amp;api=v2) [supporting-var.](https://wiki.mobilehealth.va.gov/download/attachments/62197454/sites-supporting-var.json?version=1&amp;modificationDate=1493062810000&amp;api=v2) [json](https://wiki.mobilehealth.va.gov/download/attachments/62197454/sites-supporting-var.json?version=1&amp;modificationDate=1493062810000&amp;api=v2) |
|  | | | | | | |
|  | | | | | | |

1. **Non-functional Requirements**
   1. **- Security**

This service protected by JWT Authentication, it supports both staff and veteran roles.

## - Service Configuration

The application expects to load configuration parameters from environment variables loads from consul server:

//TODO: Add required Consul configuration variables

## - Application Capacity Plan

### User Volume

|  |  |  |
| --- | --- | --- |
| **User Category** | **Total Number of Users** | **Concurrent Users** |
| Veterans | 5000 per week | 100 |

* 1. **- Container Capacity**

|  |  |  |
| --- | --- | --- |
| **Type** | **Min** | **Max** |
| CPU | 1 | 2 |
| Memory | 512 MB | 1024 MB |
| Storage | 1 GB | 5 GB |

**Project Database Capacity**

These numbers are possible when fully Nationally Released after a growing user base period, possibly 6 months after NR.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table or Collection** | **Number of Rows / Entries (per month)** | **Estimated Size per Entry** | **Total Disk (minus overhead for indexes, etc)**  **(per month)** |
| APPOINTMENT\_METRICS | 100 | 109MB | 10K (total, not per month) |
| APPOINTMENT\_REQUEST | 180,000 | est 3.1MB per entry | .56GB |
| APPOINTMENT\_REQUEST\_MESS AGE | 360,000 | 580B | .02GB |
| APPT\_REQ\_INPROCESS | 360,000 | 574B | .02GB |
| AR\_DETAIL\_CODE |  | 357B |  |
| BEST\_TIME\_TO\_CALL | 180,000 | 72B | .01GB |
| CC\_APPOINTMENT\_REQUEST | 180,000 | 468B | .08GB |
| DETAIL\_CODE | 360,000 | 4KB | 1.4GB |
| FACILITY | 150 (not monthly) | 700B | <1GB total |
| NOTIFICATION\_PREFERENCE | 50,000 | 1022B | .10GB |
| OFFICE\_HOURS | 360,000 | 72B | .02GB |
| PATIENT | 50,000 (just new people) | 737B | .07GB |
| PATIENT\_METADATA | 180,000 | 261B | .04GB |
| PREFERRED\_PROVIDER | 360,000 | 591B | .2GB |
| USER\_FEEDBACK | 1000 | est 1KB per entry | <1GB |
| USER\_HISTORY | 200,000 | est 1KB per entry | .19GB |

# Developer & PM Contact Information

|  |  |  |
| --- | --- | --- |
| **Developer Name/Point of Contact (POC)** | **VA E-Mail Address** | **Phone Number** |
| Doug Kurucz | [doug.kurucz@ablevets.com](mailto:doug.kurucz@ablevets.com) |  |
| **Developer Organization/Company** | **Contract Start Date** | **Contract End Date** |
| AbleVets | 1/27/18 | 1/26/19 |
| **Web and Mobile Solutions PM or POC** | **VA E-Mail Address** | **Phone Number** |
|  |  |  |
| **VA Product Development PM or POC** | **VA E-Mail Address** | **Phone Number** |
|  |  |  |