CLOUD AND SYSTEM INTEGRATION SOLUTIONS

DESIGN MANUAL

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Contents

1 Table of Figures

2 Introduction

The goal of this document is to provide a detailed example of the interactions between each of the tools chosen in the functional specification in order to carry out the work to complete the features and meet the requirements laid out by the business.

3 High Level System Architecture

Majority of the early activity for Unum policy information starts with salesforce although not all pieces of work interface with salesforce directly. Due to it being the platform the sales office use to track customers it is the source of where everything starts from a business perspective. This is at a very high level and to document all components of Unum's architecture would impact the delivery of the project. There is no business case where all 3 projects are invoked for the same customer as of today.
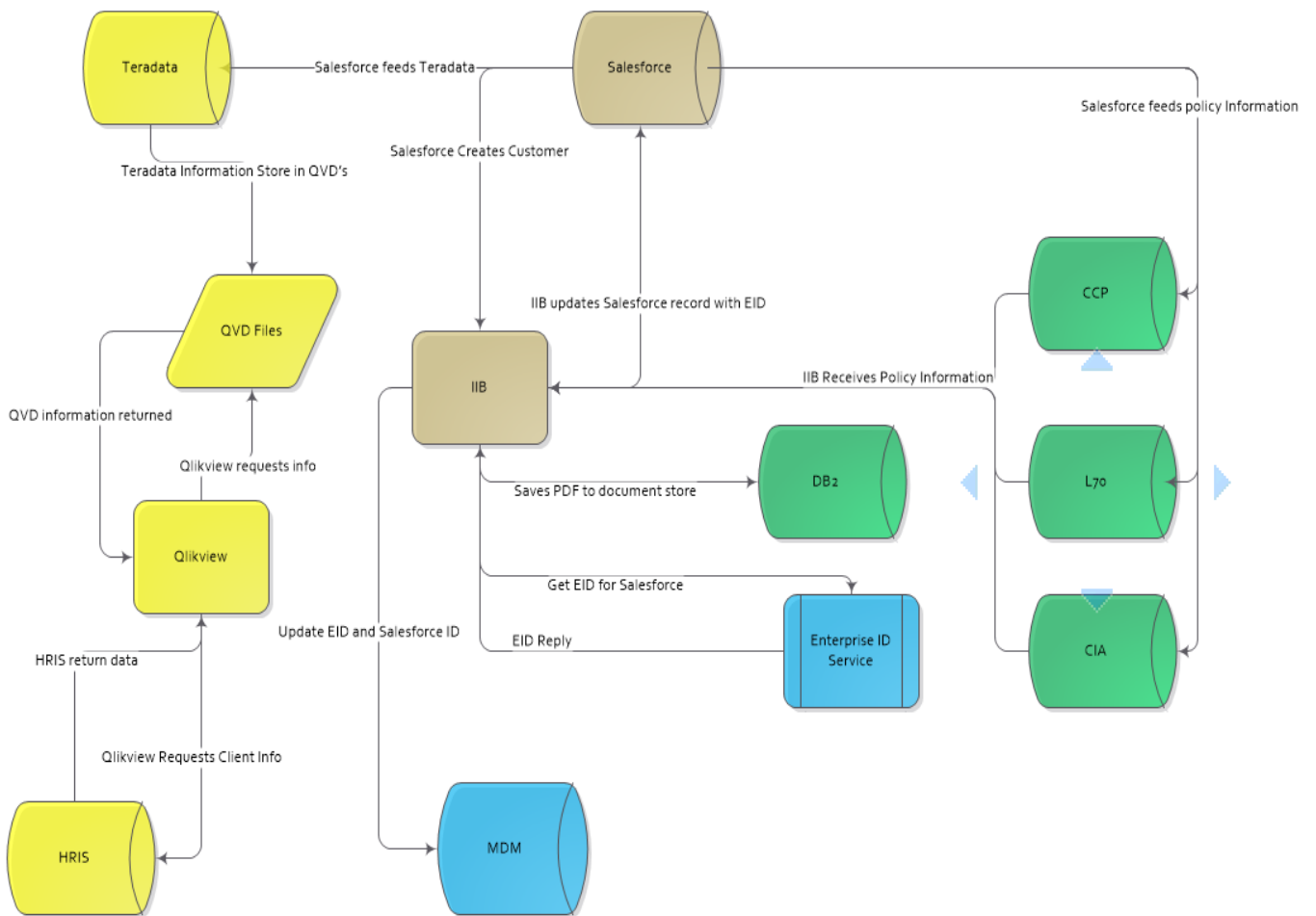
Figure 1. Overall Architecture

Flow Overall
Architecture.vsd

4 Individual Designs

4.1 HRIS Reporting

The data elements of this design are Merlin (mainframe) and CCP(mainframe), HRIS(SQL) and Salesforce the cloud platform. QlikView scripts will be executed by the management consoles getting the data from the HRIS REST API(JSON) and the QVD file and then displaying the data in the report. All security will be handled by the QlikView access point. The 9 reports listed in figure 2 will be the only development completed for this work. The QVD data will not be developed along with the HRIS REST API.
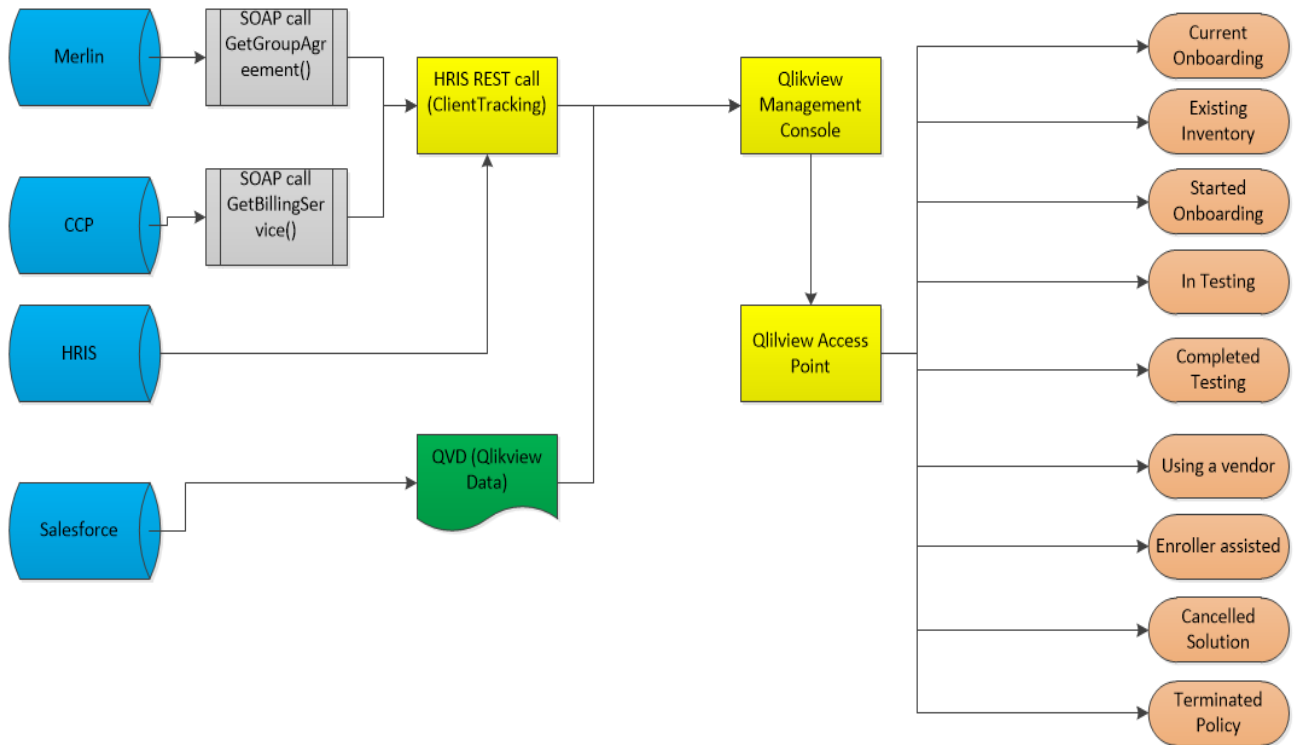
Figure 2. QlikView Flow Diagram

HRIS Qlikview
Detailed.vsd

4.1.1 ER Diagrams

Figure 3. QlikView ER Diagram

4.2 Universal Life

The data elements for this design are CCP, L70 and CIA which will be sent to MQ queue UUS.ESB.ANNUALRPT. This data will be passed to IIB which will transform this message from BLOB and then transforms to XML to be mapped to the ACCORD-191 data format. The data is then sent to CalcFocus (cloud provider) via SOAP request to generate the annual report, CalcFocus will send an acknowledgement and proceed to generate the report via AWS Lambda function. Once the report has been created CalcFocus will send the generated report to IIB via SOAP request and route it to the respective destination. Once the message has been correctly routed the PDF will then be sent to the enterprise document store (iDoc) via MQ to be saved. Only the IIB development will be done for this piece of functionality.

4.2.1 Annual Report
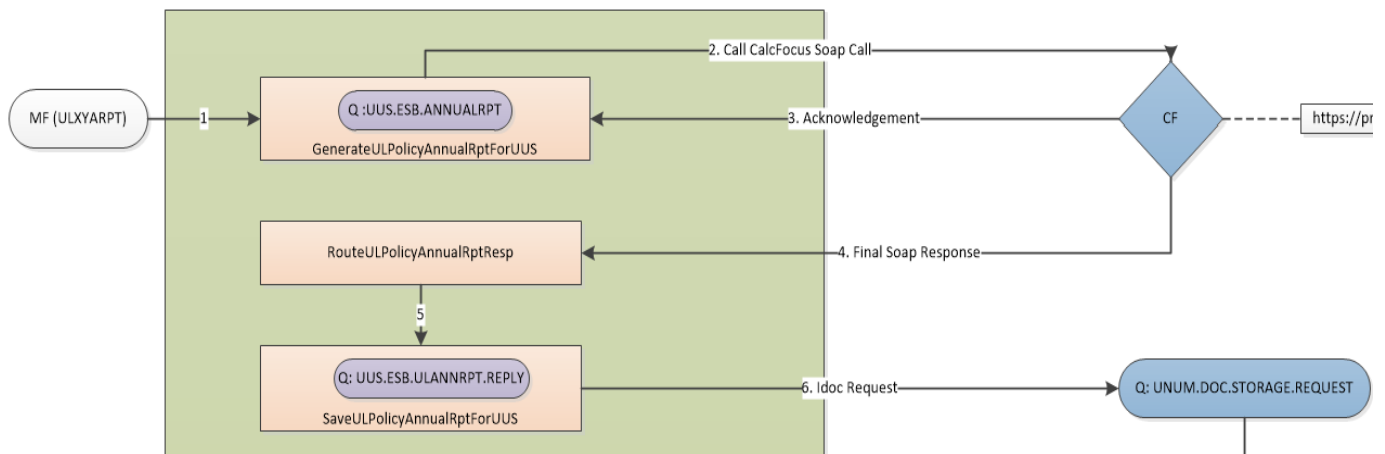
Figure 4. Annual Report Flow Diagram

UniversalLife
-AnnualReport-Illustra

4.2.2 ER Diagrams

UL Annual Report
Analytics Physical Dat

4.2.3 Illustration

The data elements for this design are CCP, L70 and CIA. In this design a SOAP illustration request will be received by IIB, IIB will receive a policy number within this request, IIB will then make a mainframe request via queue USS.CCP.ZMXI350 this will then be executed on the mainframe calling AMMYL350. AMMYL350 will return the universal life information for that policy. This policy information will then be mapped to the ACCORD-191 format and passed to CalcFocus who will then create a PDF illustration report via Lambda function. Once completed CalcFocus will send a SOAP message to IIB who will then route the message to the respective queue. Once complete IIB will pass the PDF to iDoc to be saved.
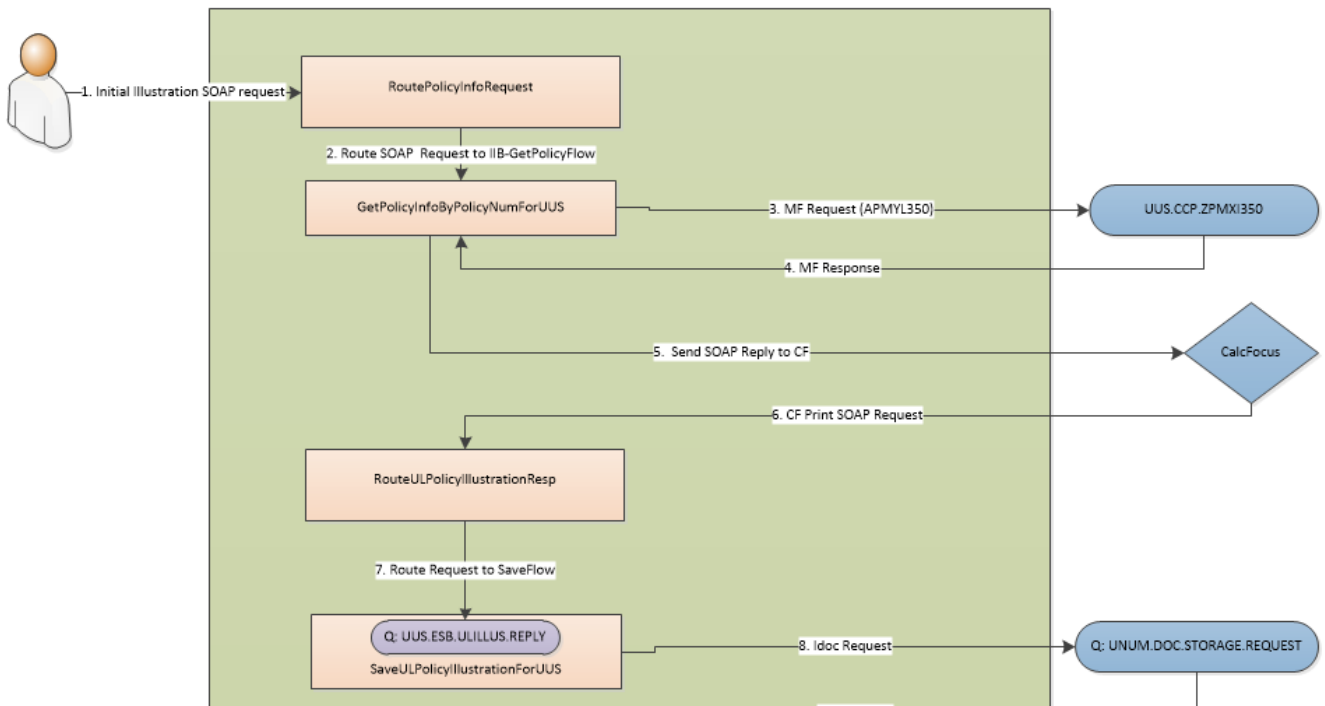
Figure 5. Illustration Flow Diagram

UniversalLife
-AnnualReport-Illustra

4.3 Salesforce as CRM

In this design IIB will receive a REST message from Salesforce this message will be picked up by the existing PublishBusinessEvents IIB service. IIB will route the message to queue UUS.CRM.CLIENT. INTIALISED to be processed. The GetEIDForSFOrg will then transform the message to be passed to AssignClientEnterpriseIdentifers will then generate the enterprise identifier and update MDM and Salesforce.
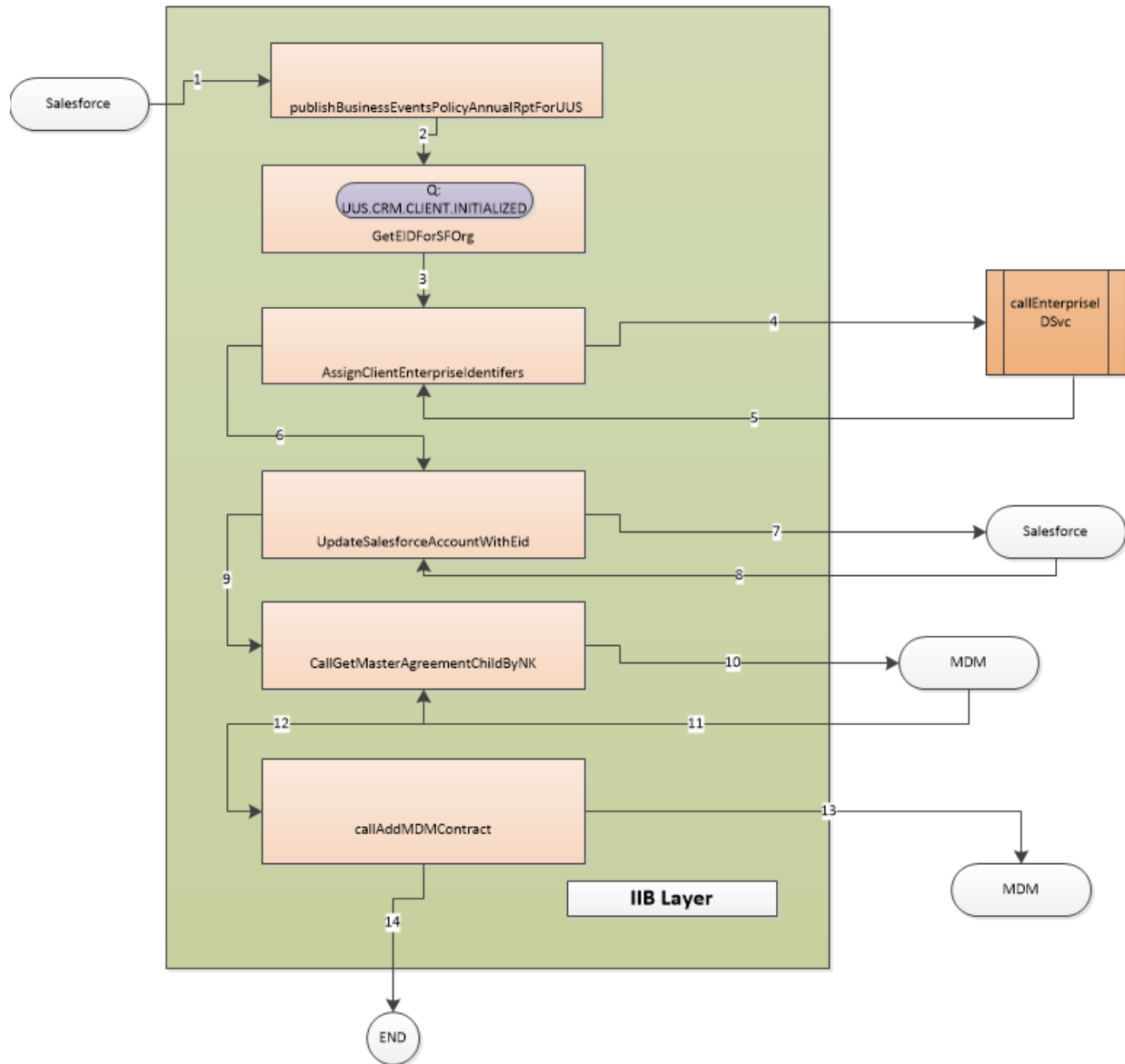
Figure 6. Salesforce as CRM Flow Diagram

EitDetailedDiagram.v
sd

5 Use Case Diagrams
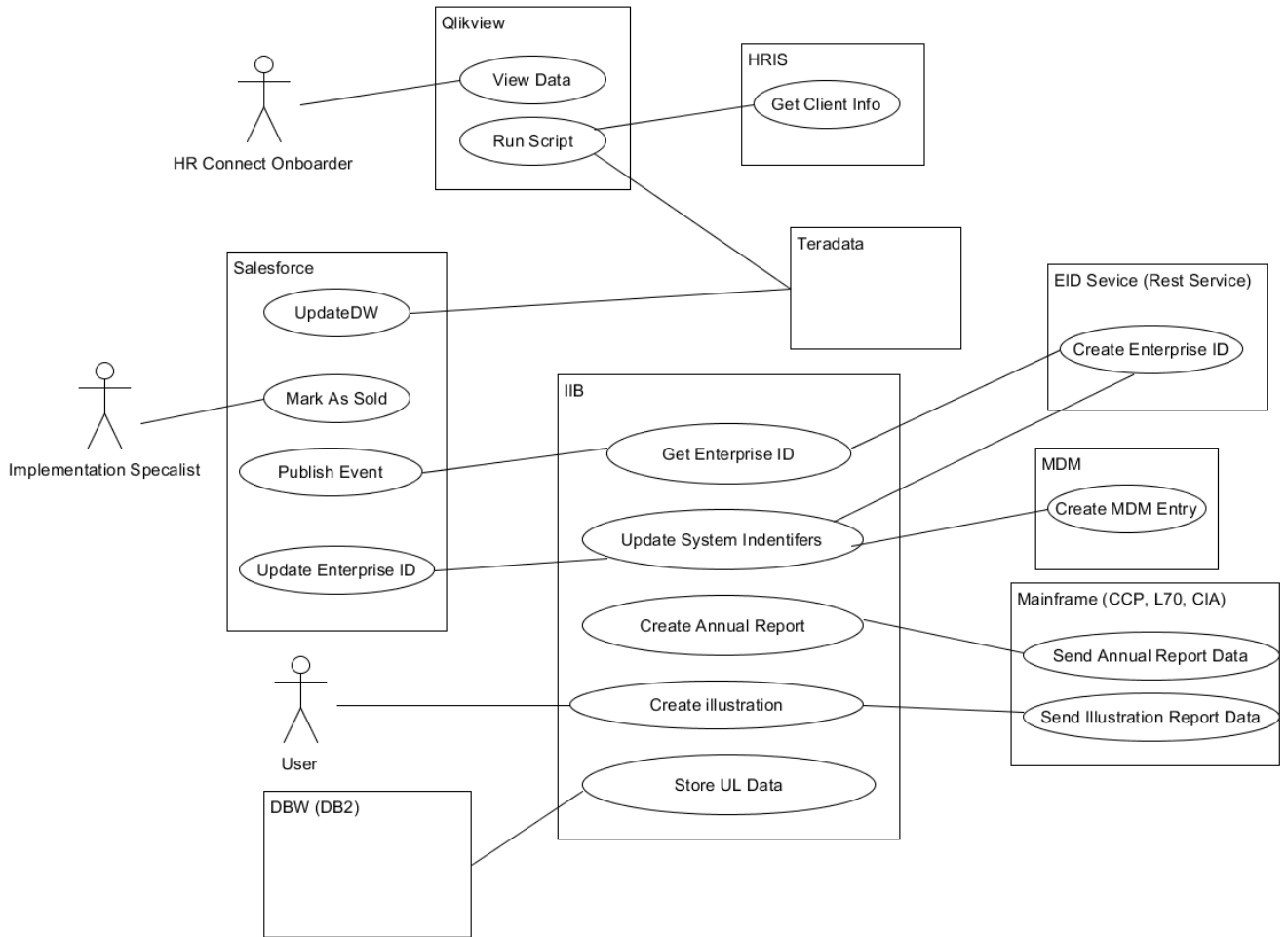
Figure 7. Use Case Diagram

6 Detailed Use Cases

Use Case: View report data
Actors: User, QlikView, Salesforce, HRIS
Stakeholders and Interests: The onboarding team care about this information as it allows them to easily see the status and other information about the clients
Preconditions: The user must have access to the report in question.
Success Guarantee: The user can see the information in the report

Main Success Scenario

1: The user enters the QlikView webpage
2: The user selects the report
3: QlikView checks if the user has access
4: QlikView presents the data from the most recently ran report

Alternatives

4b: QlikView cannot display data as user is not authorized

Technology and Data Variations List: QVD, JSON
Frequency of Occurrence: Less than 100 times a day.

Use Case: Run Script
Actors: QlikView, HRIS
Stakeholders and Interests: The onboarding team care about this information as it allows them to easily see the status and other information about the clients
Preconditions: The HRIS API must be available to call and valid security certs must be installed on QlikView server, Application ID must have access to G-Group
Success Guarantee: The report will receive information from HRIS and QVD file on the hour during office hours.

Main Success Scenario

1: QlikView will check the tasks to see if any need to be executed at that time
2: QlikView will execute the script associated to that report
3: QlikView script will call the HRIS REST service
4: QlikView script will make a call to the QVD file for the salesforce data
5: QlikView will receive data, data will be loaded into the QlikView dashboard
6: QlikView will update the last updated indicator

Alternatives

3b: The script will fail
   3c: The data will not be updated on the dashboard

Technology and Data Variations List: QVD, JSON
Frequency of Occurrence: Monday-Friday 9am – 5pm EST hourly

Use Case: Update Data warehouse
Actors: QlikView, Salesforce
Stakeholders and Interests: This data from salesforce can be used by the entire organization
Preconditions: A valid salesforce user must be setup

Main Success Scenario

1: Salesforce batch job will execute
2: Salesforce will process batch job and extract data from tables
3: Salesforce will send data over through bulk API
4: The data will then be extracted and transformed into QVD files

Technology and Data Variations List: QVD
Frequency of Occurrence: Nightly

Use Case: Get Enterprise ID
Actors: Salesforce, IIB
Stakeholders and Interests: The entire organization will benefit as there will be a way of identifying clients most important information
Preconditions: The customer must be changed from a prospect account to a customer account
Success Guarantee: Salesforce creates new customer, enterprise Identifier is generated, relationship between Salesforce and MDM is created

Main Success Scenario

1: Salesforce updates the account record type from prospect to customer
2: Salesforce prepares REST message with accounts ids and username to be sent to IIB
3: IIB message routes to MQ
4. MQ routes message based on subscription string
5. IIB receives message via MQ
7: IIB transforms message and routes it to enterprise id service
8: Enterprise id service takes salesforce ID and generates enterprise Identifier
9: IIB receives response from enterprise id service with newly generated enterprise id
10. IIB passes message to update salesforce service

Alternatives

7b: The Enterprise ID is already generated
   7c: The transaction is stopped, and an audit message is logged

Technology and Data Variations List: JSON, XML
Frequency of Occurrence: On demand basis

Use Case: Update System Identifiers
Actors: Salesforce, IIB, MDM
Stakeholders and Interests: The entire organization will benefit as there will be a way of identifying clients most important information
Preconditions: Get Enterprise ID must succeed
Success Guarantee: The new enterprise ID is passed from IIB along with the master agreement and salesforce identifiers to create the relationship

Main Success Scenario

1: IIB will prepare the request for the update to Salesforce
2: IIB will send generated enterprise ID in the request to Salesforce
3: Salesforce will store enterprise ID in database
4: IIB will prepare the request for the update to MDM
5: IIB will send the request to MDM
6: MDM will store entry in data store

Technology and Data Variations List: JSON, XML
Frequency of Occurrence: On demand basis

Use Case: Create Generate Annual Report
Actors: IIB and Mainframe (CCP,L70, CIA)
Stakeholders and Interests: All of Unum's customers that have the Universal Life product will be given a more streamlined process of generating an annual report.
Success Guarantee: The annual report information will be passed to the cloud processed and the PDF will be saved to the enterprise document store

Main Success Scenario

1: Mainframe (CCP, L70, CIA) passes request to IIB via MQ
2: IIB passes request to external resource via SOAP message
3. Cloud resource generates PDF via lambda function
4. PDF is returned to IIB
5: IIB sends PDF to iDOC storage

Alternatives

1b: The message is in the incorrect format

Technology and Data Variations List: XML, Cobal Copybook, DFDL
Frequency of Occurrence: Nightly

Use Case: Create Illustration Report
Actors: IIB, Mainframe
Stakeholders and Interests: All of Unum's customers that have the Universal Life product will be given a more streamlined process of generating an Illustration report.
Preconditions: An illustration request needs to be submitted
Success Guarantee: The Illustration request will be process and mainframe information is passed to the cloud and the return PDF is save to the enterprise document store.

Main Success Scenario

1: User will submit request for Illustration report
2: IIB receives initial SOAP request
3: IIB calls mainframe by policy number via MQ
4: Mainframe (CCP, L70, CIA) passes request to IIB via MQ
5: IIB passes request to external resource via REST Request.
6. Cloud resource sends acknowledgment and generates PDF
7. PDF is returned to IIB
8: IIB sends PDF to iDOC storage

Alternatives

1b: The message is in the incorrect format

Technology and Data Variations List: XML, Cobal Copybook, DFDL
Frequency of Occurrence: Nightly

Use Case: Send UL Data to Storage
Actors: IIB, DB2
Brief Description: IIB will receive client data to be stored for analytics reporting after the annual report or illustration functionality is executed
Stakeholders and Interests: The data from all the annual report and illustrations runs will be saved to a database for the possibility of an analytics tool reading the data later for the financial department to use.
Preconditions: The Annual report or Illustration processes must be executed.
Success Guarantee: The data will be received via MQ, IIB will then call a SQL store procedure in DB2 to save the data

Main Success Scenario

1: IIB receives request after Annual report or Illustration has ran
2: IIB transforms data to match database structure
3: IIB calls database routine
4: Databases store the data

Alternatives

3b: Database is not available

Extensions:
Technology and Data Variations List: XML, DFDL
Frequency of Occurrence: Nightly

7 Sequence Diagrams

7.1 HRIS Reports

Figure 8. HRIS SS Diagram

Qlikview.uxf
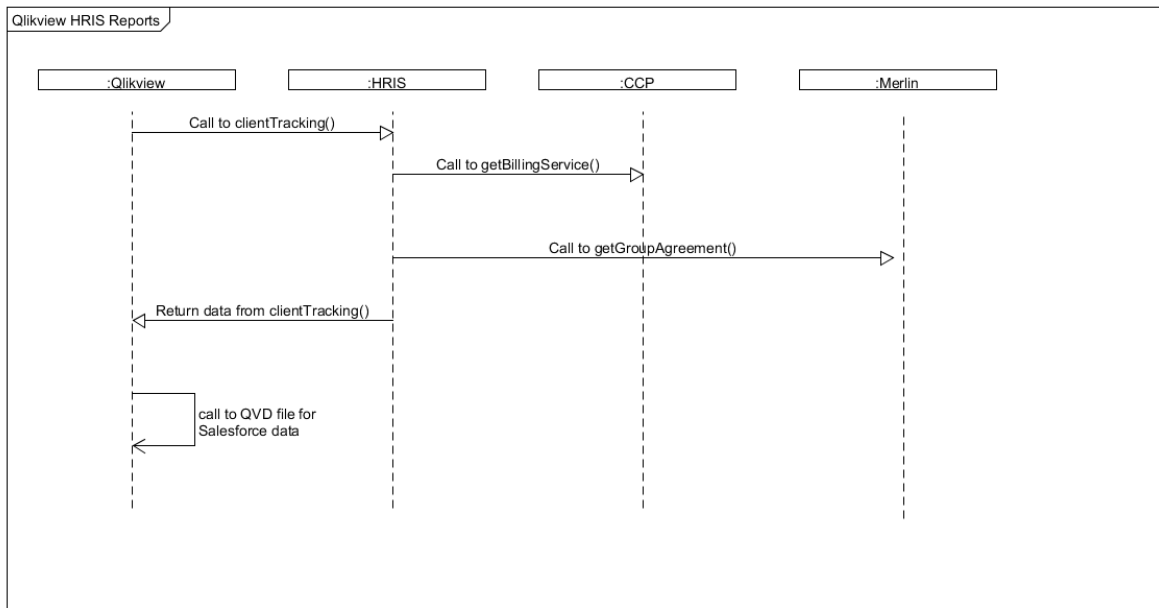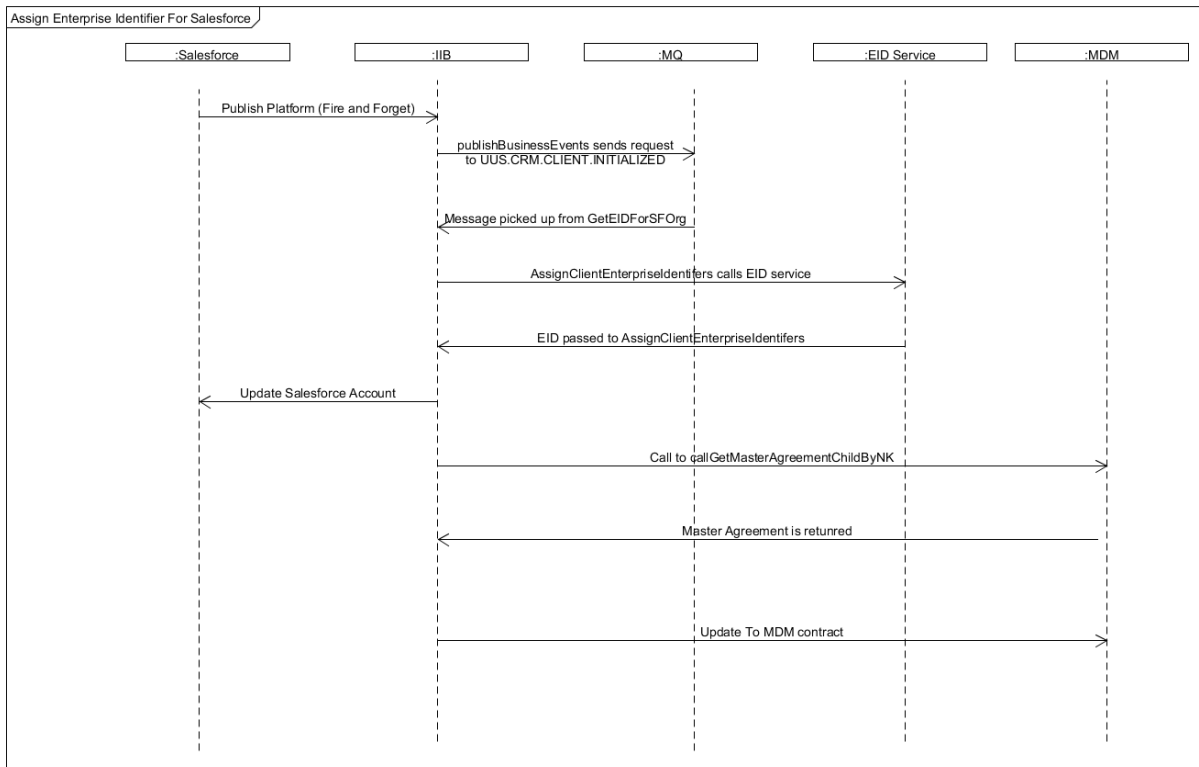
7.2 Salesforce as CRM

Figure 9. Salesforce as CRM SS Diagram

Get EID Diagram.uxf

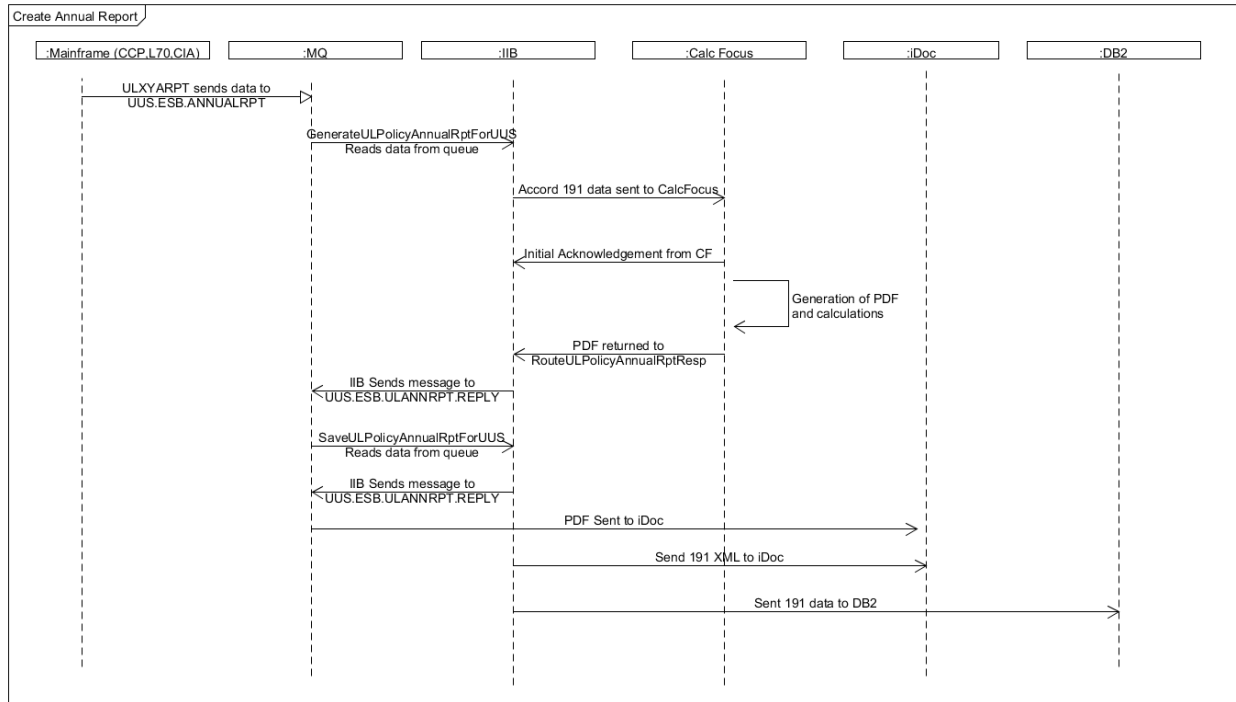## 7.3 Universal Life Annual Report

Figure 10.UL Annual Report SS Diagram

Univeral Life Annual
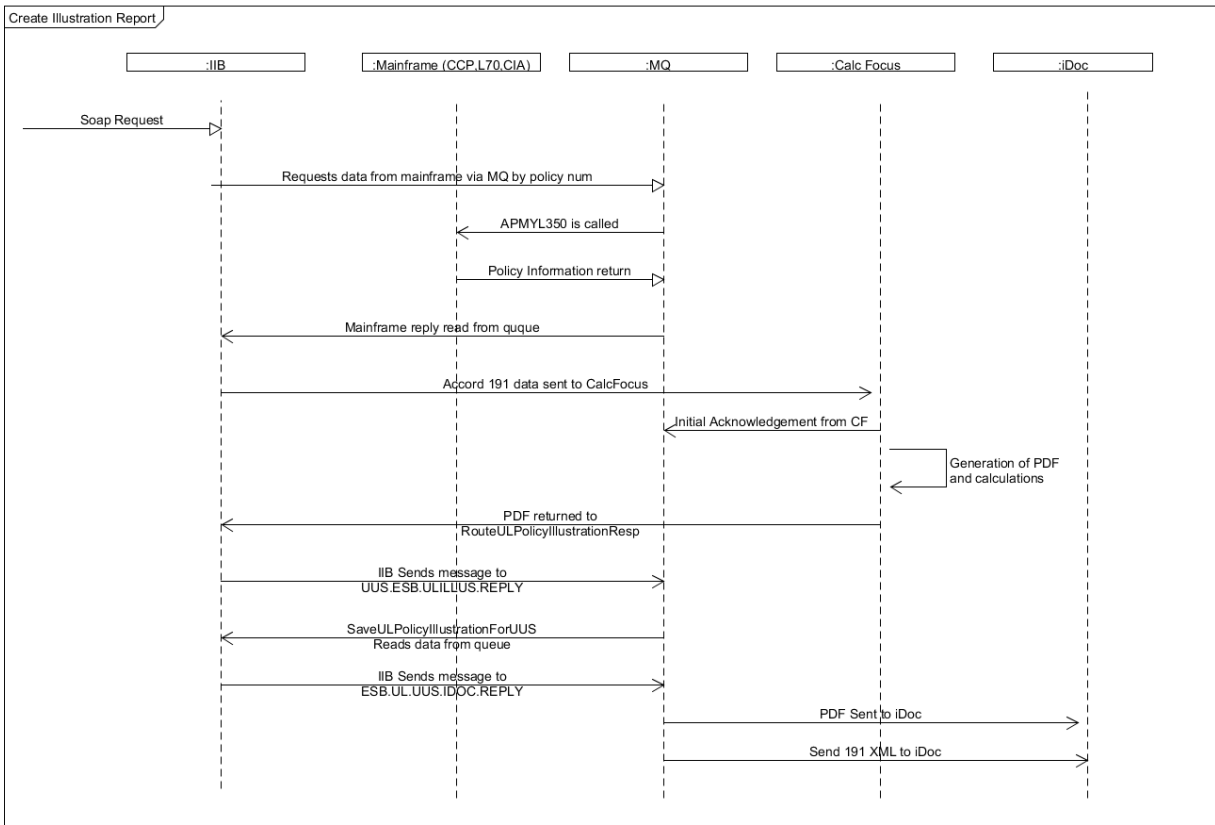Report.uxf

7.4 Universal Life Illustration Report

Figure 11. UL Illustration Diagram

Univeral Life Illustration Report.uxf

9 Methodology

9.1 Scrum

The methodology that this project will implement will be Scrum. Scrum is a methodology primarily used for software development based on agile development practices. One of the first steps of the Scrum methodology is to first define a scrum team typically a team is made up of a product owner, scrum master, developers, testers and business analysts. The role of the product owner is to create a link from the team to the stakeholders typically these people are people with a mix of knowledge in business and IT practices.

The scrum master's role in the team is to manage the resources of the team, monitor performance and facilitate meetings with business-people other teams and provide metrics to management. The developers will design the solution based on the business requirements and development practices in the organization. The testers role is to define the test cases defined by the requirements, create the test cases and run them, take part in exploratory testing, log defects as they are found, provide metrics on defects and validate deployments. The role of the business analyst is to gather the requirements of the epics, features and user stories of the project by gathering information from the stakeholders.

Once a team has been defined the product owners, lead developers and business analysts go to the stakeholders to look for opportunities to improve the business. The requirements will be gathered based on method such as job shadowing, talking with subject matter experts and seeing what other competitors are doing. After this the development team will begin to prototype solutions to the stakeholders and users and get their buy in. After this the team will then break down the requirements of the software into epics then to features and finally user stories to be completed by the team. The team will define how long their sprints are typically the range would be 2-4 weeks. Each sprint will have a goal defined by the team and the aim is to complete that goal within a set amount of time.

Typically, the team will take a certain amount of user stories to be completed in that sprint this is done with the sprint planning meeting. Stories will be assigned to members of the team and will require tasks in order to understand the steps required to build the functionality. The team will meet daily to report their progress in standup so that they can talk about issues, blockers or ask for assistance.

Once the sprint has been completed the deliverables are presented to the product owner and stakeholders and feedback is given or the functionality is accepted. The team then review their most recent sprint and pick out what they done well, what they done poorly and what they should stay doing this creates a continuous loop of improvement. This process as stated above continues until the team has completed all user stories associated to the project.
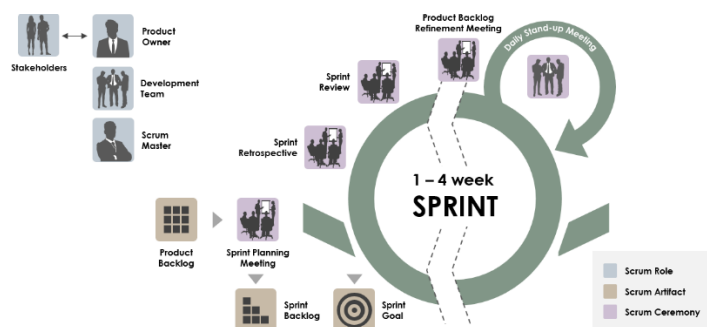

Figure 12. Scrum

10 Project Plan

The project plan and milestones are all define within this excel document as of the 30/12/2019.

Intergration Project

Select a period to highlight at right. A legend describing the charting follows.

| Period Highlight: | 13 | Plan Duration | Actual Start | % Complete | Actual (beyond plan) | % Complete (beyond plan) |

ACTIVITY	PLAN START	PLAN DURATION	ACTUAL START	ACTUAL DURATION	PERCENT COMPLETE
Client API	1	1	1	1	100%
Saelsforce QVD	1	1	1	1	10%
Design Report	1	1	1	2	0%
Schdule Runs	3	4	3	5	0%
Release Phase 1	5	5	5	5	0%
Create Generate Flow	1	5	3	6	0%
Create GetPolicy Flow	1	6	3	6	0%
Router Flows	1	7	3	7	0%
Update iDoc Storage	4	6	5	7	0%
Release Phase 2	6	6	6	6	0%
Create MQ Queues	7	7	7	0	0%
Define Input Message's	7	7	7	0	0%
Define Update Contract's	7	7	7	0	0%
Create Gateway Endpoint's	7	7	7	0	0%
Create IIB Flows	7	13	13	15	0%
Release Phase 3	13	13	13	13	0%
Activity 17	0	0	0	0	0%
Activity 18	0	0	0	0	0%

11 UI/UX

11. QlikView Report Dashboard

This will be the main interface the onboarding specialist will use. The main purpose of this screen is to display data from the REST API. The top menu bar will allow the user to change between tabs in the report the tabs being home, How To and Dashboard. Right top corner will display the search which will allow the user to search through the data that has been loaded through the script. The following section will hold the name of the report and the data elements in row column format. To the right of this we display the policy information. In the section the white empty boxes will display the filtering options for the report data these will be names of some of the column names. On the right of the filters will display a chart to give the users some visual information.
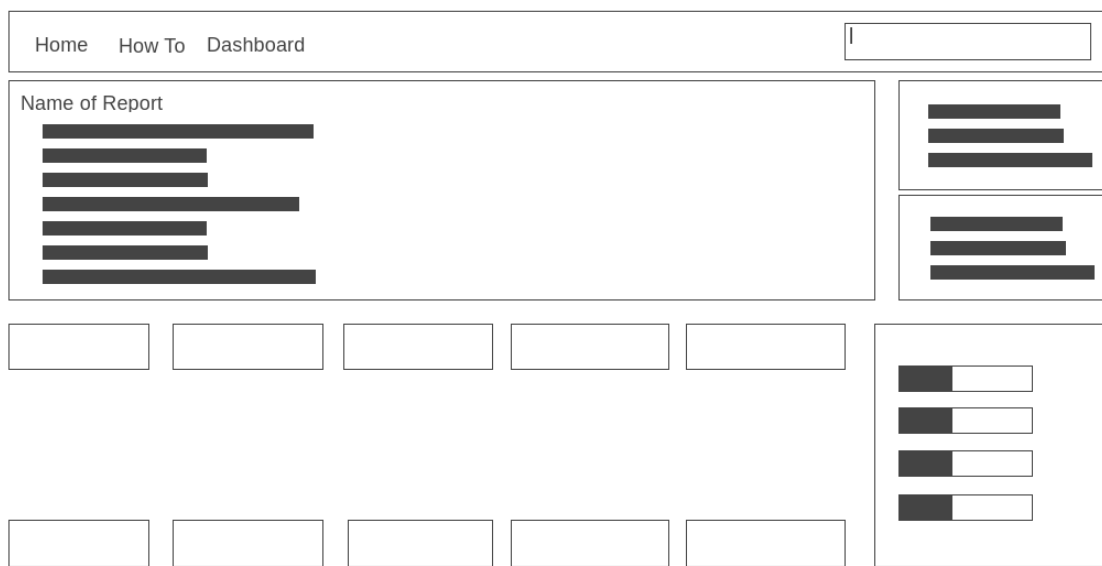

Figure 13. UI Dashboard Design

1-Dashboard.png

11.2 QlikView Report How to

The main purpose of this view is to give the user a how-to tutorial to use the application this will be with simple general knowledge information that most people are aware of such as shapes or colors. Like the design for the dashboard the navigation bar will also be present for this view. The section will include a range of different types of filters the user may use and how they all work along with this is will allow the user to understand all the features within the tool.
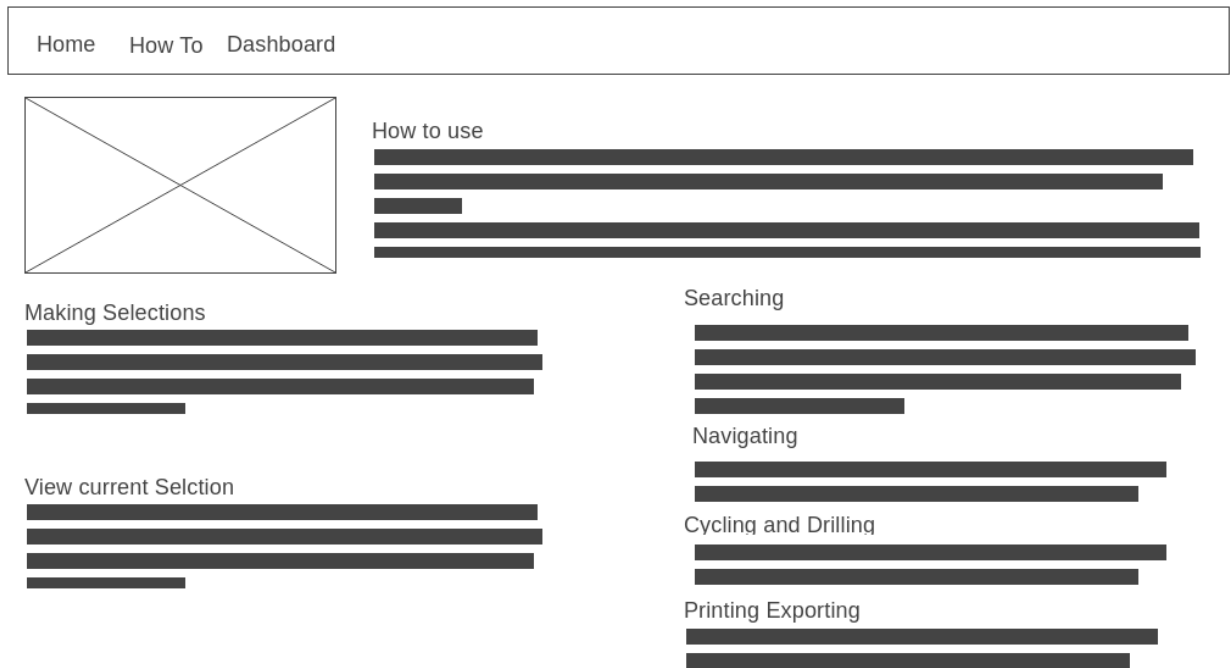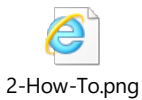

Figure 14. UI How to Diagram

2-How-To.png

11.3 QlikView Report Home

The purpose of this page is to greet the user the first time they enter the report and give them some general information about the report the data that is used and the frequency of the refresh.

Figure 15. UI Home Diagram

3-Intro.png

12 References/ Bibliography

[1] Resources.collab.net. 2019. *What is Scrum*. [ONLINE] Available at: https://resources.collab.net/agile-101/what-is-scrum. [Accessed 01 November 2019].

[2] Visual-paradigm. 2019. *Scrum sprint cycle in 8 steps*. [ONLINE] Available at: https://www.visual-paradigm.com/scrum/scrum-sprint-cycle-in-8-steps/. [Accessed 01 November 2019].