**Results from RIS to Optum CAC Requirements**

**Version 1.0**

**Prepared By Art Schwartz**

**Date: 9/21/2018**

[Document Control 3](#_Toc525563021)

[Resources: (include Project Team Members, Liaisons, Vendor Contacts, etc.) 3](#_Toc525563022)

[Project Distribution List 3](#_Toc525563023)

[Document Version Control 3](#_Toc525563024)

[1. Introduction 4](#_Toc525563025)

[1.1 Purpose 4](#_Toc525563026)

[1.2 Project Scope 4](#_Toc525563027)

[1.3 Terminology Standards 4](#_Toc525563028)

[1.3.1 Acronyms 4](#_Toc525563029)

[1.3.2 Glossary 4](#_Toc525563030)

[1.4 Document References –N/A 4](#_Toc525563031)

[2. Diagram 5](#_Toc525563032)

[3. Requirements 6](#_Toc525563033)

[3.1 Functional Requirements 6](#_Toc525563034)

[3.2 Non-Functional Requirements –N/A 6](#_Toc525563035)

[3.3 Messaging Protocols 7](#_Toc525563036)

[3.3.1 Inbound to the BayCare Cloverleaf 7](#_Toc525563037)

[3.3.2 Outbound to the BayCare Cloverleaf –N/A 7](#_Toc525563038)

[3.3.3 Inbound to the Vendor –N/A 7](#_Toc525563039)

[3.3.4 Outbound to the Vendor 7](#_Toc525563040)

[4. HL7 Messaging 8](#_Toc525563041)

[4.1 Messaging Format 8](#_Toc525563042)

[4.1.1 Segments 8](#_Toc525563043)

[4.1*.*2 Messaging Event Types 8](#_Toc525563044)

[4.1*.*3 Cloverleaf Configuration Files 8](#_Toc525563045)

[4.1.4 Cloverleaf Site Location 8](#_Toc525563046)

[4.2 Data Transformation Requirements 9](#_Toc525563047)

[4.3 Sample Message 12](#_Toc525563048)

[5. Alerts 14](#_Toc525563049)

[Appendix A: Risks and Concerns –N/A 14](#_Toc525563050)

[Appendix B: Issues List –N/A 15](#_Toc525563051)

# **Document Control**

## Resources: (include Project Team Members, Liaisons, Vendor Contacts, etc.)

|  |  |  |
| --- | --- | --- |
| **Name** | **Role** | **Email** |
| Art Schwartz | BayCare Information Services: Integration Analyst | Art.Schwartz@baycare.org |
|  |  |  |
|  |  |  |

## Project Distribution List

## Document Version Control

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Modifier** | **Description** |
| V1.0 | 9/21/2018 | Art Schwartz | Originally Created |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# 1. Introduction

## 1.1 Purpose

The purpose of this interface requirements document is to define the HL7 requirements from the RIS Radiology to Optum CAC.

## 1.2 Project Scope

The scope of the integration that is defined in this Integration Development Build Book (IDBB), particularly this IDBB defines only part of the system. There are multiple other interfaces that are documented elsewhere, including but not limited to ADT from Soarian, results, MDOC and labs from Cerner, as well as BAR transactions, and Muse EKG and Regiology results.

## 1.3 Terminology Standards

### 1.3.1 Acronyms

CAC = Computer Assisted Coding

### 1.3.2 Glossary

List the terms that require definition with respect to Cloverleaf and the product whose requirements are defined in this document. The definitions are specific to this document and may not be identical to the definitions of these terms in common use.

## 1.4 Document References –N/A

List all documents or Web addresses to which this IDBB refers; provide enough information so that the reader can access a copy of each reference. Include the title, author, version number, date, and source or location.

# 2. Diagram

Provide a solution diagram that depicts the integration of components specified in this IDBB. This diagram must include the data flow for the interfaces (source and target).

# 3. Requirements

## 3.1 Functional Requirements

Provide detail for the below functional requirements. The message transformation requirements for the components defined in this specification should be specified in section 4.2 of this document.

|  |  |  |
| --- | --- | --- |
| **Cloverleaf** |  |  |
| **Number** | **Requirement Name** | **Requirement Description** |
| FR.2018.09.21 | Passing RIS results only | If the facility is SJD or SJH and the Exam modifier (OBR-4.1) begins with an R, Surpress the message. |
| FR.2018 |  |  |
|  |  |  |

## 3.2 Non-Functional Requirements –N/A

Provide concise detail for the below non-functional requirements. This would include external table ownership, hours of support, etc. The below requirements must be evaluated for every project.

|  |  |  |
| --- | --- | --- |
| **Cloverleaf** |  |  |
| **Number** | **Requirement Name** | **Requirement Description** |
| NFR.20XX.1.0 | Click here to enter text. | Click here to enter text. |

## 3.3 Messaging Protocols

Below are listed the details for the messaging protocols that will be leveraged for this integration. This includes: TCP/IP, FTP, Web Services, etc.

### 3.3.1 Inbound to the BayCare Cloverleaf

|  |  |
| --- | --- |
| FTP |  |
| MLLP Socket Connection (TCP/IP) |  |
| Local File Drop by Midrange Team |  |
| Other | Click here to enter text. |

### 3.3.2 Outbound to the BayCare Cloverleaf –N/A

|  |  |
| --- | --- |
| FTP |  |
| MLLP Socket Connection (TCP/IP) |  |
| Local File Drop by Midrange Team |  |
| Other | Click here to enter text. |

### 3.3.3 Inbound to the Vendor –N/A

|  |  |
| --- | --- |
| FTP |  |
| MLLP Socket Connection (TCP/IP) |  |
| Local File Drop by Midrange Team |  |
| Other | Click here to enter text. |

### 3.3.4 Outbound to the Vendor

|  |  |
| --- | --- |
| FTP |  |
| MLLP Socket Connection (TCP/IP) |  |
| Local File Drop by Midrange Team |  |
| Other | Click here to enter text. |

# 4. HL7 Messaging

## 4.1 Messaging Format

HL7 2.3, Cerner\_emr ORU\_R01

### 4.1.1 Segments

The segments utilized for this interface are:

MSH

PID

[ORC]

OBR

[OBX]

*Message Construction Notes:*

*[Square Brackets] – Optional*

*{Curly Brackets} – Repeatable*

*MSH – Message Header*

*EVN – Event segment*

*PID – Patient ID segment*

*PV1 – Patient Visit segment*

*ORC – Common Order segment*

*IN1 – Insurance segment*

*[{ – Start of optional, repeatable group*

*}] – End of optional, repeatable group*

### 4.1*.*2 Messaging Event Types

Below are the messages types necessary for this integration

|  |  |
| --- | --- |
| **Event Type** | **Description** |
| ORU\_R01 | Result |
|  |  |
|  |  |

### 4.1*.*3 Cloverleaf Configuration Files

The translation file is called xcelera\_optum\_oru.xlt

### 4.1.4 Cloverleaf Site Location

Cloverleaf site: optum for test and prod.

## 4.2 Data Transformation Requirements

| **Field Description** | **HL7 Field Loc.** | **Required Y/N** | **Notes** |
| --- | --- | --- | --- |
| Message header segment | MSH | Y | Pathcopy entire segment |
| Encoding Charaters | MSH.2 | Y | Hard code ^~\& |
| Sending Facility | MSH.4 | Y | Copy to @fac |
| Receiving Application | MSH.5 | Y | Hard coding ‘ACTUS’ |
| Receiving facility | MSH.6 | Y | Copy fromoutbound MSH.4 |
| Set ID | PID.1 |  | Hard code 1 |
| Patient ID (internal) | PID.3.0  PID.3.4 | Y | Copy PID.2  Hard coding ‘CPI’ |
| Patient name | PID.5 | Y | Pathcopy entire segment |
| Date/time of birth | PID.7 | Y | Copy |
| Sex | PID.8 | Y | Copy |
| Patient Account Number | PID.18.0  PID.18.4 | Y | Copy  Hard coding ‘FIN’ |
| SS# | PID.19 | Y | Unformat (remove dashes) and copy |
| Order control | ORC.1 | Y | Hard coding ‘RE’ |
| Placer order number | ORC.2 | Y | Copy from OBR.2 |
| Filler order number | ORC.3 | Y | copy |
| Set ID | OBR.1 | Y | copy |
| Placer order number | OBR.2 | Y | copy |
| Filler order number | OBR.3 | Y | Copy  Copy to @accession |
| Universal service identifier | OBR.4 | Y | Copy both OBR4.0, OBR.4.1 |
| Observation date/time | OBR.7 | Y | Copy  Copy to @examdate |
| Ordering provider | OBR-16 | Y | Copy and Copy Dr Number to OBR.16.9 |
| Results report/status change | OBR.22 | N | Copy |
| Diagnostic serv sect ID | OBR.24 | N | Hard coding ‘RAD’ |
| Result status | OBR.25 | Y | Copy  If ORC.5 = Y  Copy 222 to OBR-25  Copy to @resultstatus |
| Quanity timg, duration | OBR.27.3 | Y | Copy |
| Reason for study | OBR.31 | Y | Copy |
| Primcipal result interpreter | OBR.32 | Y | Copy first 4 subfields and copy @fac, Dr Number to 9th subfield |
| Assiant result Interpeter | OBR-33 | Y | Copy |
| Observation/result segment | OBX | Y | Iterate thru OBX segments  Header OBX: Cerner wants to see the idx accession num on the report right after the url |
| Start IF |  |  | If the first OBX = FT |
| Set ID | OBX-1 | Y | Hard code 1 |
| Value Type | OBX-2 | Y | Hardcode TX |
| Observation  Idenifier | OBX.3 | Y | Copy what is in the Outbound OBR.4 |
| Date/time of observation | OBX.14 | Y | Copy to @resultdate |
| Observation value | OBX.5 | Y | Concat “Accession # :”, @accession, “Exam date/time” , @Examdate, @Resultstatus , “On;” , @resultdate  If ORC.5 =”N”  Copy “Images are available for review on line. No Interpretation will be associated to this image” |
| End If |  |  |  |
| If |  |  | If not the first OBX and OBX.2 = FT |
| Observation segment | OBX | Y | Pathcopy, up segment counter by 1 |
| End If |  |  |  |
| Observation  Idenifier | OBX.3 | Y | Copy what is in the Outbound OBR.4 |
| Responsbile observer | OBX.16 | Y | Copy first 4 subfileds  Copy @fac, Dr Number to 9th subfield |
| Value Type | OBX.2 | Y | If = RP delete this OBX |
| IF |  |  | If ORC.5 NE N |
| Value Type | OBX.2 |  | Hardcode TX |
| Observation Identifier | OBX.3 |  | Copy outbound OBR.4 |
| Observation value | OBX.5 | Y | Concat =INTERPRETED BY:  =  1(0).0(0).OBR.#32(0).[2]  =  1(0).0(0).OBR.#32(0).[3]  =  1(0).0(0).OBR.#32(0).[1]  =  @ResultStatus  =  =On:  @ResultDate |
| Observ result status | OBX.11 | Y | Copy from OBR.25 |
| Date last OBS Normal values | OBX.12 | Y | Copy from OBR.22 |
| End If |  |  |  |

## 4.3 Sample Message

**INBOUND FROM RIS:**

**MSH|^~\&|IDX|BOIBARD|||20180912134622||ORU^R01|1267406|P|2.3PID||810069513|7000058622^5^4^^^BOIBARD||ITPHREESIA^EIGHT^^^^||19800301000000|F||||||||||6000089428^^^PV1||O|||||MS016643^Smith^Alan^A^^^^1821130972|||||||||||||||||||||||||||||||||||||20180911110800ORC|RE|14570823755|29003171|||||||||MS016643^Smith^Alan^A^^^^1821130972^727^343^2741^OBR|1|14570823755|29003171|MAB1^MRI ABDOMEN WITH CONTRAST|||20180912134300||||||Verification of Signs and Symptoms is required|||MS016643^Smith^Alan^A^^^||||||20180912134600|||P||^^45^20180911120000^^|^~^~^~^~^|||Caller's Name: - PATIENT**

**Script Delivery - PATIENT**

**Does patient have any special needs? - N**

**Pacemaker? - N**

**Patient states claustrophobic? - N**

**Any recent surgeries? - N**

**Aneurysm Clips? - N**

**Pins or metals in the body? - N**

**<b>Patient Weight - 150**

**Order |MS004667^Krop^Daniel^Steven^^^M.D. RADIOLOGIST|~|^TEMP^BC^^^^|^Temming^Shannon^^^^RISOBX|1|RP|MAB1&GDT||http://pacstest.baycare.org/ami/html/webviewer.html?viewall&un=IDXRAD&pw=GOPACS&ris\_exam\_id=29003171OBX|1|FT|MAB1&GDT||INDICATION: Testing results to other systems. ||||||P|||20180912134600OBX|2|FT|MAB1&GDT|| ||||||P|||20180912134600OBX|3|FT|MAB1&GDT||FINDINGS: Testing results to other systems. ||||||P|||20180912134600OBX|4|FT|MAB1&GDT|| ||||||P|||20180912134600OBX|5|FT|MAB1&IMP||IMPRESSION: Testing results to other systems.||||||P|||2018091213460**

**OUTBOUND TO OPTUM/CAC:**

MSH|^~\&|IDX|ZZZ|ACTUS|ZZZ|201809121346||ORU^R01|1267406|P|2.3

PID|1||810069513^^^^CPI||ITPHREESIA^EIGHT||19800301|F||||||||||6000089428^^^ZZZ FIN

ORC|RE|14570823755|29003171

OBR|1|14570823755|29003171|MAB1^MRI ABDOMEN WITH CONTRAST|||20180912134300|||||||||MS016643^Smith^Alan^A^^^^^ZZZ Dr Number||||||20180912134600||RAD|P||^^^20180911120000||||Caller's Name: - PATIENT

Script Delivery - PATIENT

Does patient have any special needs? - N

Pacemaker? - N

Patient states claustrophobic? - N

Any recent surgeries? - N

Aneurysm Clips? - N

Pins or metals in the body? - N

<b>Patient Weight - 150

Order |MS004667&Krop&Daniel&Steven&&&&&ZZZ Dr Number

OBX|1|TX|MAB1||Accession #: 29003171 Exam Date/Time: 09/12/2018 13:43 Preliminary On: 09/12/2018 13:46

OBX|2|TX|MAB1||INDICATION: Testing results to other systems. ||||||P|||20180912134600||^^^^^^^^ZZZ Dr Number

OBX|3|TX|MAB1|| ||||||P|||20180912134600||^^^^^^^^ZZZ Dr Number

OBX|4|TX|MAB1||FINDINGS: Testing results to other systems. ||||||P|||20180912134600||^^^^^^^^ZZZ Dr Number

OBX|5|TX|MAB1|| ||||||P|||20180912134600||^^^^^^^^ZZZ Dr Number

OBX|6|TX|MAB1||IMPRESSION: Testing results to other systems.||||||P|||20180912134600||^^^^^^^^ZZZ Dr Number

OBX|7|TX|MAB1||INTERPRETED BY: Daniel Steven Krop Preliminary On: 09/12/2018 13:46||||||P|20180912134600

# 5. Alerts

Are you going to need alerting on this connection?

|  |  |
| --- | --- |
| Yes |  |
| No |  |

If the answer is yes, please complete the table below:

|  |  |  |  |
| --- | --- | --- | --- |
| **Site Name** | **Hours of Support** | **Distribution Group** | **Comments** |
|  |  |  |  |
|  |  |  |  |

# Appendix A: Risks and Concerns –N/A

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Project Name** |  |  | | |  |  |  |  |
| **Number** | **Risk / Concern** | **Comment** | **Mitigation** | | |  |  |  |
| RC.2013.1.0 |  |  | |  | |  |  |  |

# Appendix B: Issues List –N/A

This is a dynamic list of the open issues related to the IDBB that remain to be solved, including but not limited to TBDs, pending decisions, information needed, conflict awaiting resolution, and the like.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Project Name** |  |  | | |  |  |  |  |
| **Number** | **Issue** | **Comment** | **Fix** | | |  |  |  |
| I.2013.1.0 |  |  | |  | |  |  |  |

* End of document