**ORU OTObase Cerner Reqs**

**Version 1.1**

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**Date: 10/19/2018**

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# **Document Control**

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

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## Project Distribution List

## Document Version Control

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Modifier** | **Description** |
| V1.0 | 4/17/2018 | Rich Allison | Originally Created |
| V1.1 | 10/19/18 | Sailaja Parimi | Implementation of Results interface RFC # 14782 |
|  |  |  |  |
|  |  |  |  |

# 1. Introduction

## 1.1 Purpose

This document outlines the contents and logic for Audiology Results/PDF from OTObase to Cerner.

## 1.2 Project Scope

Develop an Otobase Audiology Results interface to Cerner. This interface will be implemented at two sites SJH & MPH effective 11/5/2018 for both inpatient and outpatients registered in Soarian.

## 1.3 Terminology Standards

### 1.3.1 Acronyms

MLLP – Minimum Lower Layer Protocol for messaging framing a HL7 message.

### 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

# 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.20XX.1.0 | OTOBase Audiology interface to Cerner | Develop a Results interface with PDF to Cerner for the OTOBase Audiology application for Audiologists. |

## 3.2 Functional Requirements

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.

|  |  |  |
| --- | --- | --- |
| **Cerner** |  |  |
| **Number** | **Requirement Name** | **Requirement Description** |
| FR.2018.1.0 | Contributor System | AUDIO |
| FR.2018.1.2 | Inbound Results Comserver | ORU\_TCP\_AUDIO\_PDF\_IN |
| FR.2018.1.3 | ESI for PDF results | ORU\_AUDIO\_PDF\_ESI |
| FR.2018.1.6 | Orders team build | New activity type, Aliasing on code set 200 |

## 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.

TCP/IP

### 

### 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

|  |  |
| --- | --- |
| 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

|  |  |
| --- | --- |
| 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

### 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

Variants:

None

TCL Scripts:

tps\_OTObase\_cerner\_oru – TCL script used to format segments and data

Xlates:

None

Filters:

None

### 4.1.4 Cloverleaf Site Location

cerner\_results\_7\_p

## 4.2 Data Transformation Requirements

| **Field Description** | **HL7 Field Loc.** | **Required Y/N** | **Notes** |
| --- | --- | --- | --- |
| Message Header | MSH | Y | Split the segment on the field delimiter |
| Sending Application | MSH.3 |  | “AUDIO” |
| Sending Facility | MSH.4 |  | “AUDIO” |
| Receiving Application | MSH.5 |  | “POSTIMAGE” |
| Receiving Facility | MSH.6 |  | “AUDIO” |
| Date/Time of Message | MSH.7 |  | Date/Time of Message |
| Message Type | MSH.9 |  | Message Type ORU^R01 |
| Message Control ID | MSH.10 |  | Message Control ID |
| Processing ID | MSH.11 |  | “P” |
| Version ID | MSH.12 |  | “2.5” |
|  | MSH |  | Join the MSH Segment and append to the segment list |
| Patient Identification | PID | Y | Split the segment on the field delimiter |
| Patient Identifier | PID.2 |  | locate the MRN  Extract the MRN number from PID.2 and concatenate “^BCMRN” |
| Patient Identifier List | PID.3 |  | locate the CPI  Extract the CPI number from PID.3 and concatenate “^BCCPI” |
| Patient Name | PID.5 |  | Split the patient name on “^”  Extract the patient last, first, middle, suffix and prefix. Concatenate the last and first name. Append the rest of the name if available. |
| Date/Time of Birth | PID.7 |  | DOB |
| Administrative Sex | PID.8 |  | Sex |
| Patient Address | PID.11 |  | Split the patient address on “^”  Extract the street, other, city, state, and zip code  Concatenate the address…set pidAddr [concat ${streetAddr}^${otherAddr}^${cityAddr}^${stateAddr}^${zipAddr}]  Trim the “&” from the streetAddr if present. |
| Patient Account Number | PID.18 |  | Extract the Patient Account Number from PID.18.0 and concatenate “^BCFN” |
| Create the PID segment |  |  | “PID||${MRNnbr}|${CPInbr}||${pidName}||${pidDOB}|${pidSex}|||${pidAddr}|||||||${acctNbr}” and append to the segment list |
| Common Order | ORC | Y | Split the segment on the field delimiter |
| Order Control | ORC.1 |  | “RE” |
| Placer Order Number | ORC.2 |  | Placer Order Number (order number from order message is sent back on the result message) |
| Filler Order Number | ORC.3 |  | Copy Placer Order Number to the Filler Order Number |
| Create the ORC segment |  |  | "ORC|${orcCntrl}|${orcPlacr}|${orcFillr}" |
| Observation Request | OBR | Y | Split the segment on the field delimiter |
| Set ID | OBR.1 |  | Extract the Set ID |
| Placer Order Number | OBR.2 |  | Copy the Placer Order Number |
| Filler Order Number | OBR.3 |  | Copy the Placer Order Number to the Filler Order Number |
| Universal Service Identifier | OBR.4 |  | Copy “AUDTEST” |
| Observation Date/Time | OBR.7 |  | Copy the MSH.7 Date/Time |
| Diagnostic Serv Sect ID | OBR.24 |  | COPY “MDOC” |
|  | OBR.25 |  | COPY “F” |
| Create the OBR segment |  |  | "OBR|${setID}|${obrPlacr}|${obrFillr}|${obrUSId}|||${dateTime}|||||||||||||||||MDOC|F" |
| Observation/Result | OBX | Y | Split the segment on the field delimiter |
| Set ID | OBX.1 |  | Extract the Set ID |
| Value Type | OBX.2 |  | Copy the Value Type (“ED”) |
| Observation Identifier | OBX.3 |  | COPY “AUDTEST” |
| Observation Value | OBX.5 |  | PDF Section… |
|  |  |  | Load the PDF section into $obxPDF  Split the PDF section on “^” into $spltPDF  Hard code “APPLICATION” into $spltApp  Hard code “PDF” into $spltPdf  Hard code “BASE64” into $spltBase |
|  |  |  | Load the PDF from spltPDF position 4 into $spltRslt  set obxPDF [concat ^${spltApp}^${spltPdf}^${spltBase}^${spltRslt}] |
| Create the OBX segment |  |  | "OBX|${setID}|${valType}|${obxUSId}||${obxPDF}||||||F||Name of Audiology PD"  Sample: |^APPLICATION^PDF^BASE64^JVBERi0xLjQKJdP0zOEKMSAwIG9… VmCjEwODAyNAolJUVPRgo=||||||F||Name of Audiology PD |
|  |  |  |  |

## 4.3 Sample Message

**Result message from Cerner to Cloverleaf Inbound:**

MSH|^~\&|AUDIO|AUDIO|POSTIMAGE|SJS|20180314103646||ORU^R01|ORU20180314103646|P|2.7

PID||7000017280|810017344||shellytest^otobase||19630219|F|||&2995 Drew St^^Clearwater^FL^33759|||||||6000037099

ORC|NW|13358714153

OBR|1|13358714153|3|||201803121126

OBX|1|ED|3|1|Acrobat^text^pdf^Base64^…

…



**Result message from Cloverleaf to Otobase:**

MSH|^~\&|AUDIO|AUDIO|POSTIMAGE|AUDIO|20181009161849||ORU^R01|ORU20181009161849|P|2.5|

PID||7000058867^^^^BCMRN|810069934^^^^BCCPI||CONETEST^AUDIOLOGYSHELLITWO||20151009|M|||9876 AUDIOLOGY ST^^Tampa^FL^33614|||||||6000090005^^^^BCFN

ORC|RE|14629878547|14629878547

OBR|1|14629878547|14629878547|AUDTEST|||20181009161849|||||||||||||||||MDOC|F

OBX|1|ED|AUDTEST||^APPLICATION^PDF^BASE64^JVBERi0xLjQKJ CnN0YXJ0eHJlZgoxMDMzOTcKJSVFT0YK||||||F||Name of Audiology

# 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** |
|  |  | |  |  |
| cerner\_results\_7 | | 7am-7pm | Cerner Orders Clindoc | OTOBase Audiology Results to Cerner |

# Appendix A: Risks and Concerns

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

# Appendix B: Issues List

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