**Cerner Allergies to Medicity Requirements**

**Version 1.1**

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**Date: 3/20/2019**

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# **Document Control**

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## Project Distribution List

## Document Version Control

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Modifier** | **Description** |
| V1.0 | 2/26/2018 | Tiffany Bohall | Originally Created |
| V1.1 | 3/20/19 | Charles Markwardt | Added the FSI contributor system and updated the data flow diagram |
|  |  |  |  |
|  |  |  |  |

# 1. Introduction

## 1.1 Purpose

The purpose of this document is to define the interface requirements between Cerner and Medicity HIE specifically for ADT person level allergy transactions, which are converted to results. The intended audience includes anyone wishing to know more about this communication.

## 1.2 Project Scope

The scope of the integration that is defined in this Integration Development Build Book (IDBB), includes only the personal level allergies from Cerner to Medicity HIE. No other interface are discussed.

## 1.3 Terminology Standards

### 1.3.1 Acronyms

**ADT** – Admission, Discharge, Transfer: mainly demographic and patient location data

**HIE** – Health Information Exchange

1.3.2 Glossary –N/A

**Contributor System –** External System that sends to and/or receives data from Cerner Millennium. A “Contributor System” is built on Cerner as part of an interface or data feed.

**Contributor Source –** A source created on Cerner used to identify inbound and/or outbound aliases for data sent to and received from Foreign Systems.

**Scripting –** Custom Cerner programs written to modify, format, and filter message transactions for the interfaces. The types of scripts used by FSI are Suppression, Route, Modify Object, Modify Original, Type, and ACK

## 1.4 Document References

Additional documents specific to Medicity HIE can be found on the Enterprise Integration team’s Sharepoint website: EIT Site Documents > Medicity HIE.

# 2. Diagram

# 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.2018.2.26.1 | tpsAdvHL7Filter | There is a TPS pre-proc which routes messages for certain locations to a specific nexus server. MSH.4 passes SJN, SJW, SJH, SFB and SJS to nexus 1. MPH, MCS, MDU, BAH, NBY, SAH, WHH, WHW and BRM are routed to nexus 2 server. |
| FR.2018.2.26.2 | tpsAdvHL7Filter | Suppress all transactions when AL1.0 and PID.7 is null |
| FR.2018.2.26.3 | Cerner\_pad\_leading\_zeros | TCL proc which pads the social security number with leading 0 from Cerner, if the length is less than 9 |

|  |  |  |
| --- | --- | --- |
| **Cerner** |  |  |
| **Number** | **Requirement Name** | **Requirement Description** |
| **FR.2018.11.6.1** | Remove Historical CMRN | Cerner will no longer be sending out the Historical CMRN in the PID 3. Instead we will be sending out BayCare CMRN |
| **FR.2019.03.20** | Contributor System SOARIAN | The contributor system was created for the ADT Soarian  Connections inbound and outbound  **Outbound Field Processing**  MSH.3 Sending application = HNAM  MSH.4 Sending Facility = CERNER  MSH.5 Receiving Application = SOARIAN  MSH.6 Receiving Facility = BAYCARE |

## 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** |

## 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. |

### 3.3.5 Outbound from Cerner to Cloverleaf

Port: 20051

ComServer: ADT\_TCPIP\_SOARIAN\_OUT

# 4. HL7 Messaging

## 4.1 Messaging Format

### 4.1.1 Segments

The segments utilized for this interface are:

MSH

PID

PV1

[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

Xlate: soarf\_medicity\_adt.xlt – Interface code

Inbound Variant: HL7 2.3, cerner\_emr ADT\_A01

Outbound Variant: HL7 2.6, cerner\_emr ORU\_R01

### 4.1.4 Cloverleaf Site Location

medicity\_15\_p

## 

## 4.2 Data Transformation Requirements

| **Field Description** | **HL7 Field Loc.** | **Required Y/N** | **Notes** |
| --- | --- | --- | --- |
| Message Header | MSH | Y | Pathcopy the entire segment |
| Message Type | MSH.9 | Y | Hard code “ORU” in 9.0 and “R01” in 9.1 |
| Patient Identifier | PID | Y | Pathcopy the entire segment |
| Patient ID – External | PID.2 | Y | Null the original field inbound. Iterate on PID.3 field and if PID.3.3 = “BayCare CMRN”, copy PID.3.0 outbound. |
| Patient ID – Internal | PID.3 | Y | Null the original field inbound. Copy from PID.2.0. |
| Ethnic Group | PID.22 | Y | If PID.22 = “Non HIS or LAT”, hard code “NOH” outbound. |
| Patient Visit | PV1 | Y | Pathcopy the entire segment |
| Attending Doctor: ID, Last, First, Middle, Suffix and Assigning Authority | PV1.7 | Y | Null the original field inbound. Iterate on the field and if PV1.7.8 = “NPI Number”, copy 7.0, 7.1, 7.2, 7.3, 7.4 and 7.8. If the output of PV1.7.0 is null, copy 7.1, 7.2, 7.3 and 7.4 outbound. |
| Consulting Doctor: ID, Last, First, Middle, Suffix and Assigning Authority | PV1.9 | Y | Null the original field inbound. Iterate on the field and if PV1.9.8 = “NPI Number”, copy 9.0, 9.1, 9.2, 9.3, 9.4 and 9.8. If the output of PV1.9.0 is null, copy 9.1, 9.2, 9.3 and 9.4 outbound. |
| Admitting Doctor: ID, Last, First, Middle, Suffix and Assigning Authority | PV1.17 | Y | Null the original field inbound. Iterate on the field and if PV1.17.8 = “NPI Number”, copy 17.0, 17.1, 17.2, 17.3, 17.4 and 17.8. If the output of PV1.17.0 is null, copy 17.1, 17.2, 17.3 and 17.4 outbound. |
| Order Control | ORC.1 | Y | Hard coding “RE” |
| Filler Order Number –entity ID and namespace ID | ORC.3 | Y | Based on above PID.3 iteration and if statement criteria, copy PID.3.0 to ORC.3.0. Hard code “HNAM\_EVENTID” to ORC.3.1. |
| Filler Order Number –entity ID and namespace ID | OBR.3 | Y | Based on above PID.3 iteration and if statement criteria, copy PID.3.0 to OBR.3.0. Hard code “HNAM\_EVENTID” to OBR.3.1. |
| Universal Service Identifier –ID and text | OBR.4 | Y | Hard coding “ALL” to 4.0 and hard coding “Baycare Allergy Document” to 4.1 |
| Observation Date/Time | OBR.7 | Y | Copy from MSH.7 |
| Diagnostic Serv Sect ID | OBR.24 | Y | Hard coding “MDOC” |
| Result Status | OBR.25 | Y | Hard coding “F” |
| Set ID | OBX.1 | Y | Creating report header:  Hard coding “1”  Hard coding “2” in second OBX instance |
| Value Type | OBX.2 | Y | Hard coding “TX”  Hard coding “TX” in second OBX instance |
| Observation Identifier –ID and text | OBX.3 | Y | Hard coding “ALL” in 3.0 and “Baycare Allergy Document” in 3.1.  Hard coding “ALL” in 3.0 and “Baycare Allergy Document” in 3.1 in second OBX instance |
| None | None | N/A | In preparation to create repeating OBX segments from repeating AL1 and ZAL segments; copy ZAL.2 to @tmpactdt variable and ZAL.7.1 to @tmpreactcd variable. |
| Observation Value | OBX.5 | Y | TCL proc added to MSH.7 which separates the date and time for clock command and send output to @tmpmshdt variable.  Concatenate hard coding “Allergies as of:” with @tmpmshdt outbound. Concatenate AL1.3.1, ZAL.6, @tmpactdt, “Reaction:” and @tmpreactcd outbound for however many AL1/ZAL segments sent outbound from Cerner. |

## 4.3 Sample Message

**INBOUND:**

MSH|^~\&|HNAM|CERNER|BRM|SOARIAN|20180220144154||ADT^A31|Q3719801519T4762986484||2.3||||||8859/1

EVN|A31|20180220144154|||15280611

PID|1|7000016147^^^BayCare MRN^MRN^SOARIAN|7000016147^^^BayCare MRN^MRN^SOARIAN~810015308^^^BayCare CMRN^Community Medical Record Number^SOARIAN||EVENTTHREE^THIRTEEN^^^^^Current||19600315|M||White|1398 FISHER BLVD^^Bartow^FL^33830^^Home||(727)555-4580^Home1||EN|M|Unknown|6000034805^^^BayCare FIN^FIN NBR^SOARIAN||||Non HIS or LAT|||0

PV1|1|E|ERDBR^^^BRM^^Ambulatory(s)^BRM|Emergency|||1962540997^Cimino II^Patrick^T^QQ^^^^NPI Number^Personnel^^^National Provider Identifier^CACTUS~MS055144^Cimino II^Patrick^T^QQ^^^^BayCare Dr Number^Personnel^^^ORGANIZATION DOCTOR^CACTUS|||ERD||||EO||N|1962540997^Cimino II^Patrick^T^QQ^^^^NPI Number^Personnel^^^National Provider Identifier^CACTUS~MS055144^Cimino II^Patrick^T^QQ^^^^BayCare Dr Number^Personnel^^^ORGANIZATION DOCTOR^CACTUS|E||H||||||||||||||||AHR|||BRM||Discharged|||20170907084000|20170908101800

AL1|1|DA|d00116^penicillin^Multum Drug|MO

ZAL|UPDATE||40964867|40964867|Allergy|Active|||||20180220144147|^Grgic^Vukasin^^^^^^^Personnel|0

AL1|2|DA|d07727^penicillin G benzathine^Multum Drug

ZAL|UPDATE||40964905|40964905|Allergy|Active|||||20180220144147|^Grgic^Vukasin^^^^^^^Personnel|0

**OUTBOUND:**

MSH|^~\&|HNAM|CERNER|BRM|SOARIAN|20180220144154||ORU^R01|Q3719801519T47629864|P|2.3||||||8859/1

PID|1|810015308|7000016147||EVENTTHREE^THIRTEEN^^^^^Current||19600315|M||White|1398 FISHER BLVD^^Bartow^FL^33830^^Home||(727)555-4580^Home1||EN|M|Unknown|6000034805^^^BayCare FIN^FIN N||||NOH|||0

PV1|1|E|ERDBR^^^BRM^^Ambulatory(s)^BRM|Em|||1962540997^Cimino II^Patrick^T^QQ^^^^NPI Number|||ERD||||EO||N|1962540997^Cimino II^Patrick^T^QQ^^^^NPI Number|E||H||||||||||||||||AHR|||BRM||Discharged|||20170907084000|20170908101800

ORC|RE||~810015308^HNAM\_EVENTID

OBR|||~810015308^HNAM\_EVENTID|ALL^Baycare Allergy Document|||20180220144154|||||||||||||||||MDOC|F

OBX|1|TX|ALL^Baycare Allergy Document||Allergies as of: 02/20/2018 02:41:54 pm

OBX|2|TX|ALL^Baycare Allergy Document||

OBX|3|TX|ALL^Baycare Allergy Document||penicillin (Active - ) Reaction:

OBX|4|TX|ALL^Baycare Allergy Document||penicillin G benzathine (Active - ) Reaction:

# 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** |
|  |  |  |  |
| Medicity\_15\_p | 0600 - 2000 | [HIE-Team@baycare.org](mailto:HIE-Team@baycare.org) and [ISEnterpriseIntegrationServices@baycare.org](mailto:ISEnterpriseIntegrationServices@baycare.org) | If the backlog is greater than 50 messages for more than 10 minutes, alert the Integration and HIE teams. |

# Appendix A: Risks and Concerns –N/A

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Project Name** |  |  | | |  |  |  |  |
| **Number** | **Risk / Concern** | **Comment** | **Mitigation** | | |  |  |  |
|  |  |  | |  | |  |  |  |

# 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** | | |  |  |  |
|  |  |  | |  | |  |  |  |

* End of document