**Cerner to Marbella ORM Requirements**

**Version 1.2**

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[Document Control 3](#_Toc505679137)

[Resources 3](#_Toc505679138)

[Project Distribution List 3](#_Toc505679139)

[Document Version Control 3](#_Toc505679140)

[1. Introduction 4](#_Toc505679141)

[1.1 Purpose 4](#_Toc505679142)

[1.2 Project Scope 4](#_Toc505679143)

[1.3 Terminology Standards 4](#_Toc505679144)

[1.3.1 Acronyms 4](#_Toc505679145)

[1.3.2 Glossary 4](#_Toc505679146)

[1.4 Document References 4](#_Toc505679147)

[2. Diagram 5](#_Toc505679148)

[3. Requirements 6](#_Toc505679149)

[3.1 Functional Requirements 6](#_Toc505679150)

[3.2 Non-Functional Requirements 6](#_Toc505679151)

[3.3 Messaging Protocols 6](#_Toc505679152)

[3.3.1 Inbound to the BayCare Cloverleaf From Cerner 7](#_Toc505679153)

[3.3.2 Outbound to MARBELLA 7](#_Toc505679154)

[4. HL7 Messaging 7](#_Toc505679155)

[4.1 Messaging Format 7](#_Toc505679156)

[4.1.1 Segments 7](#_Toc505679157)

[4.1*.*2 Messaging Event Types 8](#_Toc505679158)

[4.1*.*3 Cloverleaf Configuration Files 8](#_Toc505679159)

[4.1.4 Cloverleaf Site Location 8](#_Toc505679160)

[4.2 Data Transformation Requirements 9](#_Toc505679161)

[4.3 Sample Message 11](#_Toc505679162)

[Appendix A: Risks and Concerns 12](#_Toc505679163)

[Appendix B: Issues List 12](#_Toc505679164)

# **Document Control**

## Resources

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## Project Distribution List

## Document Version Control

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Modifier** | **Description** |
| V1.0 | 1/18/2018 | Levy Lazarre | Original document |
| V1.1 | 2/5/18 | Dan Olszewski | Adding in NFR – unsupressing orders |
| V1.2 | 7/12/19 | Tiffany Bohall | Updating filter criteria based on Cerner Model project |
| V1.3 | 9/26/19 | Yitzhak Magoon | Add new sample message and route script logic for Model |
|  |  |  |  |

# 1. Introduction

## 1.1 Purpose

The purpose of this document is to describe the ORM Interface going from Cerner Millennium to GetWellNetwork’s Marbella.

The ultimate goal of this interface is to maintain in Marbella a census of BayCare patients receiving palliative care. When an order for palliative care is entered in Cerner on a given patient, the Cloverleaf engine receives the ORM message and transforms it into an ADT message that is sent to Marbella. Upon receiving this specific ADT message, Marbella will update the patient’s record in the application, turning on the “Palliative” flag.

## 1.2 Project Scope

The scope of this project is to automate the integration of the existing Marbella application with Soarian ADT via one-way HL7 interface. However, to meet a specific need of some users, an ORM interface from Cerner to Marbella has been developed as an addition to the ADT interface since the ORM messages are transformed into ADT by Cloverleaf.

## 1.3 Terminology Standards

### 1.3.1 Acronyms

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

**HIS** – Health Information System, the source and keeper of patient demographic data

**ORM** – Order Message

### 1.3.2 Glossary

**ADT Event** – Trigger event associated with a patient event: registration, admission, discharge, transfer, update…

## 1.4 Document References

1. Marbella ADT spec.docx

2. Marbella - ADT testing plan.xlsx

# 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.2018.1.0 | Only “palliative care” orders should go to Marbella. | An advanced TCL filter is used to select only messages with the specific Cerner order code for palliative care in OBR.4: **Consult** |
| FR.2018.2.0 | Send patient identifiers in PID.3 | Several identifiers (MRN, CPI) may be sent in PID.3; the CPI will be used as the main patient identifier. |
| FR2018.3.0 | Hard code the HL7 version to 2.3 | In MSH.12, hard code 2.3 as the value for HL7 version. |

## 3.2 Non-Functional Requirements

Provide concise detail for the below non-functional requirements. The below requirements must be evaluated for every project.

|  |  |  |
| --- | --- | --- |
| **Cerner** |  |  |
| **Number** | **Requirement Name** | **Requirement Description** |
| NFR.2018.1.0 | Unsuppress Palliative orders in Cerner | Update our eso\_get\_orders\_selection script to allow orders with the PALLIATIVE CDF meaning to be sent outbound |
| NFR.2019.2.0 | Global: Route script | Modify the route\_out script to send Palliative orders out the ORM\_CONSULT\_OUT interface instead of ORM\_TCP\_BAYC\_OUT. |

## 3.3 Messaging Protocols

Below are listed the details for the messaging protocols that will be leveraged for this integration. Please see the reference document located on the Integration SharePoint server: <insert link to document here>

### 3.3.1 Inbound to the BayCare Cloverleaf From Cerner

* TCP MLLP Server Connection

### 3.3.2 Outbound to MARBELLA

* TCP MLLP Client Connection (using the same outbound connection as the Soarian ADT interface)

# 4. HL7 Messaging

## 4.1 Messaging Format

### 4.1.1 Segments

The segments utilized for this interface are:

MSH

EVN

PID

PV1

*Message Construction Notes:*

*[Square Brackets] – Optional*

*{Curly Brackets} – Repeatable*

*MSH – Message Header*

*EVN – Event segment*

*PID – Patient ID segment*

*PV1 – Patient Visit segment*

### 

### 4.1*.*2 Messaging Event Types

Below are the messages types necessary for this integration

Supported Events

|  |  |
| --- | --- |
| **Event Type** | **Description** |
| ORM\_O01 | Order Message |
| ADT\_A03 | Discharge a patient |
| ADT\_A08 | Update patient information |

### 4.1*.*3 Cloverleaf Configuration Files

For each HL7 interface specified in Section 2 of this document, identify the Cloverleaf Configuration Files: Variants, TCL Scripts, Xlates, etc.

HL7 Variants: 2.3 cerner\_emr

Xlate: cerner\_marbella\_orm.xlt

TCL Script: tpsAdvHL7Filter.tcl

### 4.1.4 Cloverleaf Site Location

Production = soarf\_adt\_ent\_18\_p

Test = soarf\_adt\_ent\_18

## 4.2 Data Transformation Requirements

| **Field Description** | **HL7 Field Loc.** | **Required R/O/C** | **Data Type** | **Length** | **Notes** |
| --- | --- | --- | --- | --- | --- |
| **Message Header Segment** | MSH | R |  |  | PathCopy |
| Sending Application | MSH.3 | C |  |  | Hardcode “CERNER” |
| Sending Facility | MSH.4 | R |  |  | Copy incoming MSH.5 |
| Receiving Application | MSH.5 | O |  |  | Hardcode “MARBELLA” |
| Receiving Facility | MSH.6 | R |  |  | Copy incoming MSH.5 |
| Message Type | MSH.9 | R |  |  | Change to “**ADT^A08**”. However, if the order is cancelled (ORC.1 = CA) and there is a discharge date in PV1.45, change the event type to “**ADT^A03**” |
| HL7 Version | MSH.12 | R |  |  | Hardcode “2.3” |
| **Event Segment** | EVN | C |  |  |  |
| Event Type Code | EVN.1 | R |  |  | Change to “**A08**”. However, if the order is cancelled (ORC.1 = CA) and there is a discharge date in PV1.45, change the event type code to “**A03**” |
| Date/Time of Event | EVN.2 | R |  |  | Copy incoming MSH.7 |
| **Patient Identifier Segment** | PID | R |  |  |  |
| Patient ID (Internal) | PID.3 (first rep) | R |  |  | Copy the BayCare MRN from PID.2 to the first repetition of PID.3 with the Identifier Type of “MRN” |
| Patient ID (External) | PID.3 (second rep) | R |  |  | Iterate on the incoming PID.3. Copy the BayCare CMRN to the second repetition of PID.3 with the Identifier Type of “CPI” |
| Patient Name | PID.5 | R |  |  | Copy Patient’s Last Name, First Name, Middle Name |
| Date of Birth | PID.7 | O |  |  | Copy |
| Gender | PID.8 | O |  |  | Copy |
| Patient Account Number | PID.18 | R |  |  | Copy (first component of PID.18) |
| Mother’s Identifier | PID.21 | O |  |  | Copy  For linking with newborns |
| **Patient Visit Segment** | PV1 | R |  |  |  |
| Patient Class | PV1.2 | O |  |  | Copy |
| Assigned Patient Location | PV1.3 | R |  |  | Copy |
| Admission Type | PV1.4 | O |  |  | Copy |
| Prior Patient Location | PV1.6 | O |  |  | Copy |
| Attending Physician | PV1.7 | O |  |  | Copy |
| Hospital Service | PV1.10 | O |  |  | Copy |
| **Custom**: **Palliative Care Flag** | **PV1.11** | R |  |  | Copy “**PALLIATIVE-YES**”. However, if the Cerner order is cancelled (ORC.1 = CA) and the patient is not discharged, Copy “PALLIATIVE-NO”. |
| Servicing Facility | PV1.39 | O |  |  | Copy |
| Account Status | PV1.41 | O |  |  | Copy |
| Admit Date/Time | PV1.44 | R |  |  | Copy |
| Discharge Date/Time | PV1.45 | O |  |  | Copy |

## 4.3 Sample Message

Inbound to Cloverleaf from Cerner:

MSH|^~\&|HNAM|CERNER|SJH|BAYCARE|20190926055843||ORM^O01|Q5615807624T7641082418|P|2.3||||||8859/1

PID|1|2106341201^^^BayCare MRN^MRN^SOARIAN|880842^^^SJH^MRN^SJH~70412556^^^BayCare CMRN^Community Medical Record Number^SOARIAN~2106550986^^^BayCare MRN^MRN^SOARIAN~2244693^^^BMGMRN^MRN^BMG~2106341201^^^BayCare MRN^MRN^SOARIAN|70412556^^^BayCare EAD CPI^Historical CMRN^SOARIAN|PEREZ^ELVA^^^^^Current||19220424|F||W|4432 W VARN AVE^^TAMPA^FL^33616^USA^Home~none@baycare.org^^^^^^e-mail||(813)527-7072^PRN~^PRN^^none@baycare.org||SPR|M|JEH|1109767107^^^BayCare FIN^FIN NBR^SOARIAN|158684649|||HIS|||0

PV1|1|I|7W^B729^A^SJH^^Bed(s)^SJH|X|||MS010599^Cuevas^Anibal^^^^^^BayCare Dr Number||MS000631^Cura^Jose^^Jr^^^^BayCare Dr Number~MS006420^Pandya^Kirtikumar^J^^^^^BayCare Dr Number~MS078120^Rodriguez^Rafael^M^^^^^BayCare Dr Number~MS064592^Salvat^Michelle^L^^^^^BayCare Dr Number~MS010089^Rodriguez^Rafael^M.^^^^^BayCare Dr Number|MED||||EO|||MS010599^Cuevas^Anibal^^^^^^BayCare Dr Number|I||N||||||||||||||||APP|||SJH||Active|||20190923054200|||||||MS064592|MS064592^Salvat^Michelle^^^^^^SJH

PV2||Telemetry|^ENCEPHALOPATHY|||||||0||||||||||||CONFID|^^589748

IN1|1|17973549^MCR UHC^^^MCR UHC|1050111|United Healthcare|PO BOX 740800^APT 2003^ATLANTA^GA^30374^UNITED STATES^business|~GE,|333-4648^WPN~(866)333-4648^WPN|FLDSNP|MCR UHC|||20190922000000|||O|PEREZ^ELVA^^^^^Current|1|19220424|4432 W VARN AVE^^TAMPA^FL^33616^USA^Home~none@baycare.org^^^^^^e-mail|||1|||||||||||||N||||||||F||||||114095174

IN2|0|158684649|||||||||||||||||||||||114095174||||||||||||||||||||||||||||||||||||114095174||(813)527-7072^PRN

IN1|2|590087^MCD FLORIDA MEDICAID^^^MCD FLORIDA MEDICAID|1050063|Medicaid|PO BOX 7062^PO BOX 3842^TALLAHASSEE^FL^32314-7062^UNITED STATES^business|~MARGARET,|(866)458-6630^WPN~(800)289-7799^WPN||MCD Florida Medicaid|||20190922000000|||O|PEREZ^ELVA^^^^^Current|1|19220424|4432 W VARN AVE^^TAMPA^FL^33616^USA^Home~none@baycare.org^^^^^^e-mail|||2|||||||||||||D||||||||F||||||7454314694

IN2|0|158684649|||||||||||||||||||||||7454314694||||||||||||||||||||||||||||||||||||7454314694||(813)527-7072^PRN

ORC|NW|19355718759^HNAM\_ORDERID|||20||||20190926055824|||MS010599^Cuevas^Anibal^^^^^^BayCare Dr Number|||20190926055843|||Written^Written/Paper/Fax|5955^Cuevas^Anibal^^^^^^External Id^Personnel^^^External Identifier~H66337^Cuevas^Anibal^^^^^^UPIN^Personnel^^^DOCUPIN^CACTUS~1881660587^Cuevas^Anibal^^^^^^NPI Number^Personnel^^^National Provider Identifier^CACTUS~BC7785530^Cuevas^Anibal^^^^^^DEA No^Personnel^^^DOCDEA^CACTUS~MS010599^Cuevas^Anibal^^^^^^Username^Personnel^^^Username^CACTUS~ME84561^Cuevas^Anibal^^^^^^Doctor License Number^Personnel^^^LICENSENBR^CACTUS~MS010599^Cuevas^Anibal^^^^^^BayCare Dr Number^Personnel^^^ORGANIZATION DOCTOR^CACTUS~6563100844009^Cuevas^Anibal^^^^^^SureScripts Prescriber ID^Personnel^^^SureScripts Prescriber Index

OBR|1|19355718759^HNAM\_ORDERID||Consult^Consult to Palliative Care|||||||||||MS010599|MS010599^Cuevas^Anibal^^^^^^BayCare Dr Number||||||20190926055843||Palliative Care|||1^^0^20190926055800^^Routine|MS064592^Salvat^Michelle^L^^^^^BayCare Dr Number

OBX|1|IS|Reason for Palliative Care Consult^reasonforpalliativec593764221||CD:593762394

Outbound from Cloverleaf to Marbella:

MSH|^~\&|CERNER|NBY|MARBELLA|NBY|20180110101457||ADT^A08|Q3717155657T47578272|P|2.3||||||8859/1

EVN|A08|20180110101457

PID|||7000013485^^^^MRN~810011985^^^^CPI||DURILLATEST^PCP||19791231|F||||||||||6000036437

PV1||I|RHBN^0114^01^NBY^^Bed(s)^NBY|X||||||ERD|PALLIATIVE-YES||||||||||||||||||||||||||||NBY||Active|||20180108113100

Go Live Date for Marbella ORM interface: January 18, 2018

# Appendix A: Risks and Concerns

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Project Name** |  |  | | |  |  |  |  |
| **Number** | **Risk / Concern** | **Comment** | **Mitigation** | | |  |  |  |
| RC.2017.1.0 |  |  | |  | |  |  |  |

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

* End of document