**Cerner to Provation ORM Requirements**

**Version 1.1**

**Prepared By: Levy Lazarre & Jerome Starke**

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# **Document Control**

## Resources

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## Project Distribution List

## Document Version Control

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Modifier** | **Description** |
| V1.0 | 10/09/17 | Levy Lazarre | Original document |
| V1.1 | 10/10/17 | Jerome Starke | Adding Millennium Information |
|  |  |  |  |
|  |  |  |  |

# 1. Introduction

## 1.1 Purpose

The purpose of this document is to describe the ORM (orders) Interface from Cerner Millennium to Provation MD.

Provation is an external application used by physicians to document endoscopic procedures. It has been selected by   
BayCare to replace the current EndoWorks system, that is being sunset by the vendor. Some of the advantages of Provation are an increase in workflow efficiency and a marked improvement in documentation, coding and reimbursement processes.

## 1.2 Project Scope

The scope of this project is to automate the integration of the Provation MD system with Cerner Millennium via a one-way Orders interface from Cerner to Provation and a one-way Results interface from Provation to Cerner. Patients demographic information will be acquired by Provation from the Orders interface. For the sake of simplicity and quick implementation, an ADT interface is currently out of scope for this project, although it may be implemented later.

## 1.3 Terminology Standards

### 1.3.1 Acronyms

**ADT** – Admission, Discharge, Transfer: mainly demographic and patient location 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. Orders Message Specifications\_05.pdf

2. 5.0 TechArchv50-08.pdf

3. 5.0 TechSpecv50-23.pdf

4. BACFL Mapping Spreadsheet.xls

# 2. Diagram

This diagram shows the orders flow between Cerner Millennium (source) and Provation (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.2017.1.0 | Send BayCare CPI in PID.3 | The application will use the BayCare CPI as the main patient identifier, so we capture and send the BayCare CPI in PID.3, instead of the MRN. The assigning authority for the CPI is sent as “BCCPI”. |
| FR.2017.2.0 | Send the assigning authority  for the account number as was sent for the CPI | We must send the same assigning authority (“BCCPI”) for the account number (FIN) in PID.18 |
| FR.2017.3.0 | Send “CA” as order control code in ORC.1 for cancelled orders | Cerner sends “77” in ORC.5 for cancel orders - Provation wants to see “CA” in ORC.1 |
| FR.2017.4.0 | If the facility code in MSH is “BAH”, must change it to “MDU” | The “BAH” facility is not built in Provation. It is treated as an ancillary of “MDU”. |
| **Cerner** |  |  |
| FR.2017.4.0 | Orderable alias must begin with END | The surgery order (code\_set 200) must be aliased beginning with END on the Provation contributor source to qualify to be sent out the interface. |

## 3.2 Non-Functional Requirements

Provide concise detail for the below non-functional requirements. 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.

### 3.3.1 Inbound to the BayCare Cloverleaf from Cerner

* TCP MLLP Server Connection

### 3.3.2 Outbound to Provation

* TCP MLLP Client Connection

### 3.3.3 Cerner Outbound to Cloverleaf

* TCP MLLP Client Connection



* TCP MLLP Client

# 4. HL7 Messaging

## 4.1 Messaging Format

### 4.1.1 Segments

The segments utilized for this interface are:

MSH

PID

PV1

[PV2]

ORC

OBR

{[OBX]}

[NTE]

*Message Construction Notes:*

*[Square Brackets] – Optional*

*{Curly Brackets} – Repeatable*

*MSH – Message Header*

*PID – Patient ID segment*

*PV1 – Patient Visit segment*

*PV2 – Patient Visit – additional information*

*ORC – Common Order segment*

*OBR – Observation Request segment*

*OBX – Observation/result segment*

*NTE – Notes and comments segment*

### 4.1*.*2 Messaging Event Types

Below are the messages types necessary for this integration

Supported ORM Events

|  |  |
| --- | --- |
| **Event Type** | **Description** |
| O01 | Order Message |

### 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\_provation\_orm.xlt

TCL Script: tpsAdvHL7Filter.tcl

### 4.1.4 Cloverleaf Site Location

Production = cerner\_orders\_6\_p

Test = cerner\_orders\_6

## 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 “HNAM” |
| Sending Facility | MSH.4 | C |  | |  | Copy input MSH.5. If equal to “BAH”, change to “MDU” |
| Receiving Application | MSH.5 | O |  | |  | Hardcode “PROVATION” |
| Receiving Facility | MSH.6 | Y |  | |  | Copy input MSH.5 – For sameday surgery, Millennium puts SDS in MSH5. If equal to “BAH”, change to “MDU” |
| **Patient Identifier Segment** | **PID** | R |  | |  |  |
| Patient ID (Internal) | PID.3 | R |  | |  | ITERATE. Find the BayCare CPI (Cerner CMRN) and copy it to the first subfield of PID.3. Copy “BCCPI” as the assigning authority to the fourth subfield of PID.3 |
| Patient Name | PID.5 | R |  | |  | Copy Patient’s Last Name, First Name, Middle Name, Suffix |
| Date of Birth | PID.7 | O |  | |  | Copy |
| Gender | PID.8 | O |  | |  | Copy |
| Race | PID.10 | O |  | |  | Copy |
| Patient Account Number | PID.18 | R |  | |  | Copy (first component of PID.18). Copy “BCCPI” ” as the assigning authority to the fourth subfield of PID.18 |
| Ethnic Group | PID.22 | O |  | |  | Copy |
| **Patient Visit Segment** | **PV1** | R |  | |  |  |
| Patient Class | PV1.2 | O |  | |  | Copy |
| Assigned Patient Location | PV1.3 | R |  | |  | Copy |
| Attending Physician | PV1.7 | O |  | |  | Copy ID, last name, first name, middle name. Cerner is Querying in the Surgeon and their Baycare Dr # into this field. |
| Consulting Physician | PV1.9 | O |  | |  | Copy ID, last name, first name, middle name |
| Hospital Service | PV1.10 | O |  | |  | Copy |
| Patient Type | PV1.18 | O |  | |  | Copy |
| **Patient Visit Segment –additional inf** | **PV2** | O |  | |  |  |
| Admit Reason | PV2.3 | O |  | |  | Copy |
| **Common Order Segment** | **ORC** | R |  | |  |  |
| Order Control Code | ORC.1 | R |  | |  | Copy “NW” to this field. However, if ORC.5 (order status) = 77, copy “CA” (cancelled) to this field. |
| Date/Time of Transaction | ORC.9 | O |  | |  | Copy |
| Entered By | ORC.10 | O |  | |  | Copy |
| Ordering Provider | ORC.12 | O |  | |  | Copy ID, last name, first name, middle name |
| Enterer’s Location | ORC.13 | O |  | |  | Copy |
| Order Effective Date/Time | ORC.15 | O |  | |  | Copy |
| Order Control Code Reason | ORC.16 | O | |  |  | Copy |
| Action By | ORC.19 | O | |  |  | Copy |
| **Observation Request Segment** | **OBR** | R |  | |  |  |
| Set ID - OBR | OBR.1 | O | |  |  | Copy |
| Placer Order Number | OBR.2 | R | |  |  | Copy |
| Filler Order Number | OBR.3 | O | |  |  | Copy |
| Universal Service ID | OBR.4 | R | |  |  | Copy – Millennium is suppressing messages that don’t have an order alias beginning with END. |
| Requested Date/Time | OBR.6 | {R} | |  |  | Copy the first subfield of input OBR.22 to this field |
| Observation Date/Time | OBR.7 | O | |  |  | Copy |
| Observation End Date/Time | OBR.8 | O | |  |  | Copy |
| Ordering Provider | OBR.16 | O |  | |  | Copy ID, last name, first name, middle name |
| **Notes and comment Segment** | **NTE** | O |  | |  | NTE segment is converted to OBX segment |
| Set ID - OBX | OBX.1 | O |  | |  | Copy NTE.1 |
| Value Type | OBX.2 | O |  | |  | Copy NTE.2 |
| Observation Identifier | OBX.3 | O |  | |  | Copy NTE.3 |

Note: For all the Physician/Provider “COPY” statements above, a check is made to see if the assigning authority in that physician field is equal to the Sending Facility. If so, copy the physician data to the output.

The outbound Millennium interface is blocking all orders without an alias beginning with “END” for the first 3 characters.

## 4.3 Sample Message

Inbound to Cloverleaf from Cerner:

MSH|^~\&|HNAM|CERNER|SJH|BAYCARE|20171002140819||ORM^O01|Q3324365924T4219413291||2.3||||||8859/1

PID|1|7000016339^^^BayCare MRN^MRN^SOARIAN|7000016339^^^BayCare MRN^MRN^SOARIAN~810015541^^^BayCare CMRN^Community Medical Record Number^SOARIAN||Provation^Inpatient||19750508|M||W|45 Testing Blvd^^New Port Richey^FL^34654^^Home||(456)784-5789^PRN||ENG|D|BAP|6000035156^^^BayCare FIN^FIN NBR^SOARIAN||||UNK|||0

PV1|1|I|6E^6E^X2^SJH^^Bed(s)^SJH|R|||MS010820^Brannan^Anthony^^^^^^SJH|||MED||||RP||N|3054^Brannan^Anthony^N^^^^^SJH|I|||||||||||||||||||||SJH||Active|||20171002123200

PV2||Acute|^Abdominal pain|||||||0||||||||||||CONFID|^^589748

ORC|SN|10451510687^HNAM\_ORDERID|||20||||20171002140816|B066909^Ujrqyp^Hfe^G^^^^^External Id^Personnel^^^External Identifier|||||20171002140817||||B066909^Ujrqyp^Hfe^G^^^^^External Id^Personnel^^^External Identifier

OBR|1|10451510687^HNAM\_ORDERID||END03^Colonoscopy||||||||||||||||||20171002140818||Surgery|||1^^0

Outbound from Cloverleaf to Provation:

MSH|^~\&|HNAM|SJH|PROVATION|SJH|20171002140819||ORM^O01|Q3324365924T42194132|P|2.3||||||8859/1

PID|||810015541^^^BCCPI||Provation^Inpatient||19750508|M||W||||||||6000035156^^^BCCPI||||UNK

PV1||I|6E^6E^X2^SJH^^Bed(s)^SJH||||MS010820^Brannan^Anthony|||MED||||||||I

PV2|||^Abdominal pain

ORC|NW|10451510687^HNAM\_ORDERID|||||||20171002140816|B066909^Ujrqyp^Hfe^G^^^^^External Id^Personnel^^^External Identifier|||||20171002140817||||B066909^Ujrqyp^Hfe^G^^^^^External Id^Personnel^^^External Identifier

OBR|1|10451510687^HNAM\_ORDERID||END03^Colonoscopy||20171002140818

Go Live Date for Provation ORM interface: October 12, 2017

# 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