**Philips XCELERA Orders from Cerner**

**Version 7.3**

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# **Document Control**

## Resources:

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|  |  |  |

## 

## Document Version Control

| **Version** | **Date** | **Modifier** | **Description** |
| --- | --- | --- | --- |
| V1.0 | 3/11/2015 | Tiffany Bohall | Originally created |
| V2.0 | 3/12/2015 | Tiffany Bohall | Added project scope details |
| V3.0 | 4/22/2015 | Tiffany Bohall | Finalizing Xcelera orders components |
| V4.0 | 4/27/2015 | Tiffany Bohall | Adding height and weight logic and updating sample message |
| V5.0 | 5/30/2015 | Tiffany Bohall | Updating the field definition for CPI as a result of recent changes |
| V6.0 | 2/3/2016 | Tiffany Bohall | Added the CVIS Interface diagram |
| V7.0 | 5/19/2016 | Tony McArtor | Added BMG Processing Notes |
| V7.1 | 6/18/19 | Lois Whitley | Updated Diagram |
| V7.2 | 9/19/19 | Lois Whitley | Transfer to new template |
| V7.2 | 9/23/19 | Tiffany Bohall | Updated to include minor changes from the ISCV upgrade and separated from Xper requirements |
| V7.3 | 10/8/19 | Tiffany Bohall | Updated to include additional information about Imagecast rebound orders and order suppression logic on the vendor side as a non-functional requirement |
|  |  |  |  |

# 1. Introduction

## 1.1 Purpose

This document outlines the changes required to accommodate the requirements of Philips IBE interface engine via an outbound Xcelera cardiology order messages from Cerner for interoperability with Philip’s ISCV solution. All gaps will be identified and mitigated as well as any non-functional requirements needed to support the solution post implementation.

## 1.2 Project Scope

Implementing the foundation for a consolidated ISCV vendor solution. Physician and Clinician satisfaction will be increased and team members will directly benefit as images from Xcelera Echo, Xper Cardiac Cath Labs, Hemodynamics, EKG, Stress and wave form results will become available through an enterprise wide solution known as ISCV. ISCV will encompass patient information, study related data and (clinical) results/reports in one central location.

## 1.3 Terminology Standards

### 1.3.1 Acronyms

ISCV: IntelliSpace Cardiovascular

CVIS: Cardio Vascular Information Systems

IBE: IntelliBridge Enterprise

### 1.3.2 Glossary

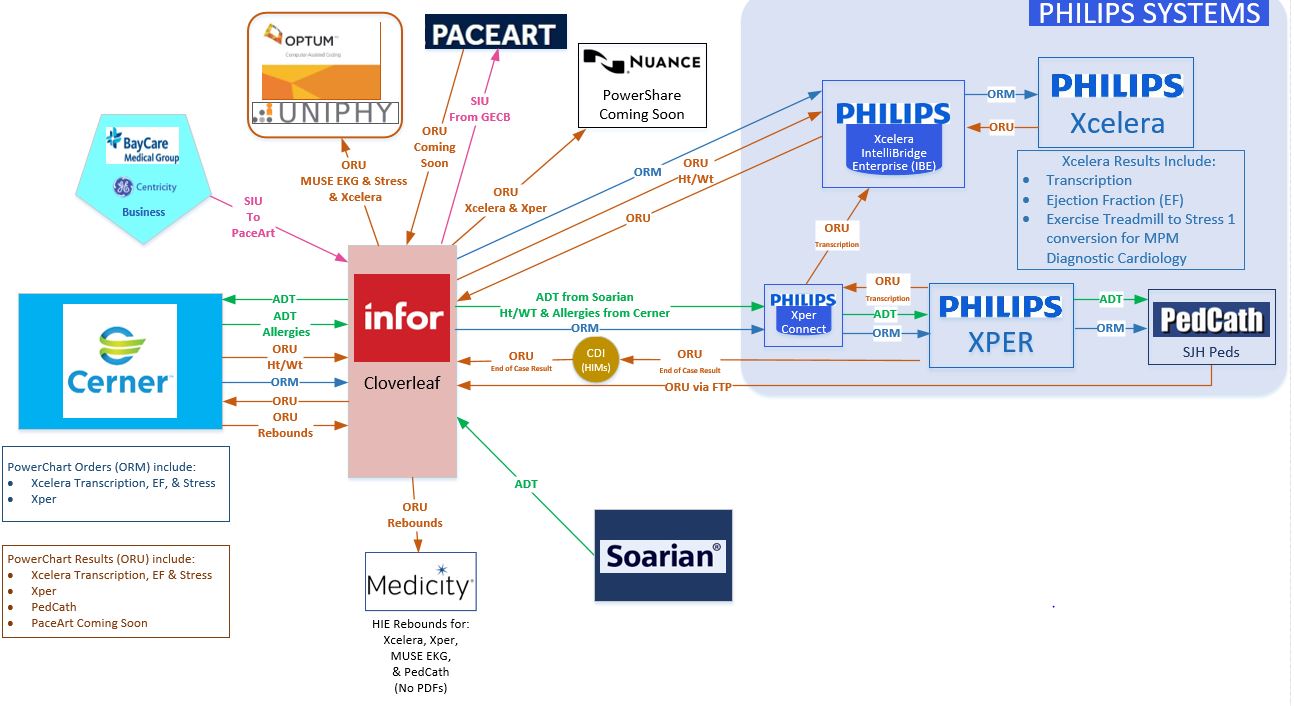
Click here to enter text.

## 1.4 Document References

**Philips Specification:**

* HL7 Interface Spec for IBE release B.05

# 2. Diagram



# 3. Core Requirements

## 3.1 Cloverleaf 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** | **Description** |
| FR.2015.3.1 | St Joseph’s Childrens facility identifier | In order to be able to route Pediatric orders to the appropriate Xcelera and Xper carts for St Joseph’s Children and Children’s orders at St Joseph’s Women’s Hospital, the code in Cloverleaf checks if OBR.24 is “Cardio Pedi” and then hard codes “SJC” in the MSH and PV1 segments. |
| FR.2019.10.3 | Advanced filtering | Suppress orders where ORC:3.1 =Imagecast\*. These orders were causing duplicate entries on the Xcelera worklist and we were requested to block them. |
|  |  |  |
|  |  |  |

## 3.2 Cerner FSI Functional Requirements

| **Cerner FSI** | | |
| --- | --- | --- |
| **Number** | **Requirement Name** | **Description** |
| FR.2011.3.1 | Future dated order cancel: CA | Added logic to make future dated order cancel leave Cerner as a CA. |
| FR.2011.3.2 | SSN | There is a filter to set the SSN field to blank if it's 999999999 when it drops out |
| FR.2014.12.1 | Doctor MS# | Send only doctor MS# identifier for all locations. There is custom doctor filter script with logic to loop through all PV1, ORC and OBR doctor fields and populate only the physicians alias associated with the patients encounter instead of every alias they have in the system. |
| FR.2014.12.2 | MSH Location Routing | Global MSH script that checks the facility identifier on the patient encounter (FIN NBR) and then move it into the MSH for Cloverleaf routing purposes. |
| FR.2015.3.15 | Height & Weight | Custom height/weight query to extract the standard values for that encounter from the database and input in OBR;18-21. |
| FR.2016.5.1 | Added Facility Routing for BMG | Cloverleaf Routes is now looking at all facilities. Also, added PID.18 to pass BMGFN to Philips. |
|  |  |  |
|  |  |  |
|  |  |  |

## 3.3 Cloverleaf Non-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.

|  |  |  |
| --- | --- | --- |
| **Number** | **Requirement Name** | **Description** |
| NFR.2015.3.1 | Blocking ‘Cardiac Cath Lab’ orders | On the interface route outbound to Xcelera; If OBR.24 = ‘Cardiac Cath Lab’, suppress the message |
| NFR.2015.3.2 | Differentiate between Xcelera and Xper combined orders outbound from Cerner | If OBR.24 (Diagnostic Serv Sect ID) – Cardiac Cath lab, then we hard code “Xper” into MSH.3. Otherwise the default value in MSH.3 is “Xcelera” |
| NFR.2015.4.27 | Passing height and weight on the order for Xcelera only | Since the Xcelera and Xper interfaces are calling the same interface translation file. We are only passing height/weight values if a., it is an Xcelera order and b., the values are present |
| NFR.2019.10.8 | Suppression on competed orders | The vendor is suppressing orders where ORC.5 = 65, these are completed status per code value/CDF meaning on the Invision contributor source outbound from Cerner and were causing duplicates to appear on the Xcelera worklists. |
|  |  |  |
|  |  |  |

## 3.4 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.

**Test Xcelera**

Port Number: 21042

IP Address: 10.44.191.93

**Prod Xcelera**

Port Number: 21042

IP Address 10.44.111.178

### 3.4.1 Protocol to Vendor

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

### 3.4.2 FSI Comm Server Names

|  |  |
| --- | --- |
|  |  |
| |  |  |  | | --- | --- | --- | | **Cerner - ORM\_PHILIPS\_OUT** |  | **Cloverleaf (10.100.128.64:14056)** | |  |

# 

# 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*

*PV1 – Patient Visit segment*

*ORC – Common Order segment*

*OBR – Observation Reques 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** |
| ORM^O01 | Order Message |
|  |  |
|  |  |

### 4.1*.*3 Cloverleaf Configuration Files

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

* Translation file: cerner\_cvis\_orm

### 4.1.4 Cloverleaf Site Location

Cardiology

### 4.1.5 Cerner FSI Impacted Scripts

## 4.2 Data Transformation Requirements

| **Field Description** | **HL7 Field Loc.** | **Required R/O/C** | **Notes** | **Middleware (CL / FSI / Mule)** |
| --- | --- | --- | --- | --- |
| Encoding Characters | MSH.2 | Y | Hard coding “ ^~\& “ | CL |
| Sending Application | MSH.3 | N | IF OBR.24 = “Cardiac Cath Lab”, hard code “XPER.” Else, hard code “XCELERA”. | CL |
| Sending Facility | MSH.4 | N | Copy from MSH.5 source field | CL |
| Receiving Application | MSH.5 | Y | Scripts check the facility identifier on the patients encounter (FIN NBR) and then move it into the MSH for Cloverleaf routing purposes. | Cerner |
| Receiving Facility | MSH.6 | N | Hard code @null outbound | CL |
| Patient ID (External) | PID.2 | Y | Copy | CL |
| Patient ID (Internal) | PID.3 | Y | Iterating through PID.3 source field and if = BayCare CMRN, copy the associated value | CL |
| Patient Name: Last, First, Middle | PID.5 | Y | Copy | CL |
| Date/Time of Birth | PID.7 | Y | Copy | CL |
| Sex | PID.8 | Y | Copy | CL |
| Patient address | PID.11 | N | Copy | CL |
| Patient home phone | PID.13 | N | Copy | CL |
| Patient work phone | PID.14 | N | Copy | CL |
| Patient Account Number | PID.18 | N | Copy | CL |
| Patient Social Security Number | PID.19 | C | If output on MSH.3 =”Xcelera”, copy. Xper does not want the SSN sent. | CL |
| Patient Class | PV1.2 | C | Copy.  If PV1.10 = “OSV”, hard code “I” to PV1.2. | CL |
| Assigned Patient Location | PV1.3 | N | Copy | CL |
| Attending Doctor: Number, last name, first name, middle initial | PV1.7 | C | If PV1.7 does not = null, copy PV1.7.0, PV1.7.1, PV1.7.2 and PV1.7.3 | CL |
| Hospital Service | PV1.10 | N | Copy | CL |
| Patient Type | PV1.18 | N | Copy | CL |
| Patient Visit Number | PV1.19 | N | Copy | CL |
| Servicing Facility | PV1.39 | N | Copy | CL |
| Order Control | ORC.1 | C | If ORC.1 is does not =”CA”, and ORC.1 does not =”NA” and ORC.1 does not =”DC”, copy “NW” to ORC.1. Else, copy ORC.1 to ORC.1. | CL |
| Placer Order Number | ORC.2 | N | Copy | CL |
| Filler Order number | ORC.3 | N | Copy | CL |
| Order Status | ORC.5 | Y | Copy | CL |
| Date/Time of transaction | ORC.9 | N | Copy | CL |
| Entered By | ORC.10 | N | Copy | CL |
| Ordering Provider: Number, last name, first name, middle initial | ORC.12 | C | If ORC.12 does not = null, copy ORC.12.0, ORC.12.1, ORC.12.2 and ORC.12.3. | CL |
| Set ID | OBR.1 | N | Copy | CL |
| Placer Order number | OBR.2 | N | Copy | CL |
| Filler Order number | OBR.3 | N | Copy from ORC.2 source field. | CL |
| Universal Service ID | OBR.4 | Y | Copy | CL |
| Observation Date/Time | OBR.7 | N | Copy | CL |
| Observation End Date/Time | OBR.8 | N | Copy | CL |
| Placer Field 1 / 2  Filler Field 1 / 2 | OBR.18/19  OBR.20/21 | C | If output of MSH.3 = “Xcelera,” copy OBR.18, OBR.19, OBR.20 and OBR.21 for all height and weight values to be passed. | CL |
| Diagnostic Serv Sect ID | OBR.24 | N | Hard coding “CUS”  If MSH.5 = “SJH” or “SJW” and if OBR.24 =”CARDIO PEDI”, hard code “SJC” in MSH.4, MSH.5 and PV1.39. | CL |
| Quantity/Timing | OBR.27 | Y | Copy | CL |
| Reason for Study | OBR.31 | C | If OBX.3.0 =”Reason For Exam”, copy OBX.5.0 to OBR.31. | CL |
| Sending Facility, Receiving Application, and Servicing Facility | MSH.4 MSH.5 PV1.39 | C | If MSH.5 =”SJH” or “SJW”, If OBR.24 =”CARDIO PEDI”, hard code “SJC” to MSH.4, MSH.5 and PV1.39. | CL |

## 4.3 Sample Message

### 4.3.1 Inbound to Cloverleaf

MSH|^~\&|HNAM|CERNER|SJH|BAYCARE|20190830113554||ORM^O01|Q5537201332T7530234858||2.3||||||8859/1PID|1|7000110380^^^BayCare MRN^MRN^SOARIAN|7000110380^^^BayCare MRN^MRN^SOARIAN~810018076^^^BayCare CMRN^Community Medical Record Number^SOARIAN||TEST^LINDA^^^^^Current||19500101|F||A|123 TOWN AVENUE^^CLEARWATER^FL^33757^USA^Home~linda.green@baycare.org^^^^^^e-mail||^PRN^^linda.green@baycare.org||HIP|M|Catholic|6000145373^^^BayCare FIN^FIN NBR^SOARIAN||||NOH|||0PV1|1|O|CATJH^^^SJH^^Ambulatory(s)^SJH|R|||MS006716^Beattie^Martin^C^^^^^BayCare Dr Number|||CAT||||RP|||MS006716^Beattie^Martin^C^^^^^BayCare Dr Number|O||8||||||||||||||||AHR|||SJH||Active|||20190829142700PV2|||^medaptus testing|||||||0||||||||||||CONFID|^^589748IN1|1|590194^Uninsured^^^Uninsured|6311702|Uninsured|||||Uninsured|||20190830000000|||O|TEST^LINDA^^^^^Current|1|19500101|123 TOWN AVENUE^^CLEARWATER^FL^33757^USA^Home~linda.green@baycare.org^^^^^^e-mail|||1|||||||||||||S||||||||F||||||NONEIN2|0||||||||||||||||||||||||NONE||||||||||||||||||||||||||||||||||||NONEORC|SC|18852451077^HNAM\_ORDERID|29006053^Imagecast Order Number||20||||20190829143000|RISUSER^GAZAFPA^VHSDFAAHI^^^^^^BayCare Dr Number^Personnel^^^ORGANIZATION DOCTOR^CD:114979916||MS006716^Beattie^Martin^C^^^^^BayCare Dr Number|||20190830113554|||REBOUND^ESI Default|RISUSER^GAZAFPA^VHSDFAAHI^^^^^^BayCare Dr Number^Personnel^^^ORGANIZATION DOCTOR^CD:114979916OBR|1|18852451077^HNAM\_ORDERID|29006053^Imagecast Order Number|ECHO3^Echo Tee for Guidance 3D||||||||||||MS006716^Beattie^Martin^C^^^^^BayCare Dr Number||||||20190830113554||CARDIO|||1^^0^20190829143000^^Routine|||WH

### 4.3.2 Outbound from Cloverleaf

MSH|^~\&|Xcelera|SJH|SJH||20190830113554||ORM^O01|Q5537201332T7530234858|P|2.3||||||8859/1

PID||7000110380|810018076||TEST^LINDA||19500101|F|||123 TOWN AVENUE^^CLEARWATER^FL^33757^USA^Home||^PRN^^linda.green@baycare.org|||||6000145373^^^BayCare FIN^FIN N

PV1||O|CATJH^^^SJH^^Ambulatory(s)^SJH||||MS006716^Beattie^Martin^C|||CAT||||||||O|||||||||||||||||||||SJH

ORC|NW|18852451077^HNAM\_ORDERID|29006053||20||||20190829143000|RISUSER^GAZAFPA^VHSDFAAHI^^^^^^BayCare Dr Number^Personnel^^^ORGANIZATION DOCTOR^CD:114979916||MS006716^Beattie^Martin^C

OBR|1|18852451077^HNAM\_ORDERID|18852451077|ECHO3^Echo Tee for Guidance 3D||||||||||||||||||||CUS|||1^^0^20190829143000^^Routine

# 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** |
|  |  |  |  |
| Cardiology\_3\_p | 24/7/365 | DiagnosticClinicalApplications@baycare.org | If there is a high outbound queue depth of 10 message or more, longer than 10 minutes, trigger alert and repeat every 20 minutes up to 3 times. |

# Appendix A: Risks, Concerns & Issues

|  |  |  |  |
| --- | --- | --- | --- |
| **Project Name** | |  | |
| **Number** | **Risk/Concern/Issue** | **Comment** | **Mitigation** |
|  |  |  |  |
| RCI.2019.10.8 | Concern: Rebound Imagecast orders | This is a workflow that just needs to be noted and is used to accommodate future Cardiology orders. These do pass the Cerner and Imagecast accession number currently. | The vendor is working on a resolution so that just the Cerner accession displays to minimize confusion for end users. |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

* End of document