**Muse ORU Requirements**

**Version 2.4**

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# **Document Control**

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## Project Distribution List – N/A

## Document Version Control

|  |  |  |  |
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| **Version** | **Date** | **Modifier** | **Description** |
| V1.0 | 1/25/2016 | Tiffany Bohall | Originally Created |
| V2.0 | 2/3/2016 | Tiffany Bohall | Updated |
| V2.1 | 2/23/2016 | Tiffany Bohall | Updated the document to include the Muse Stress waveform addition |
| V2.2 | 3/21/2016 | Tony McArtor | Updated the document to include the Muse Stress waveform addition |
| V2.3 | 9/13/2016 | Tom Fredrickson Sailaja Parimi | Updated Cloverleaf Information Updated Cerner Information with BMG EKG Device Integration project implementation. |
| V2.4 | 6/18/19 | Lois Whitley | Updated Diagram |

# 1. Introduction

## 1.1 Purpose

The purpose of this document is to provide the current configuration for the Muse Cardiology results interface to Cerner. The results interface was originally built with only an EKG component. As of the first quarter of 2016, a Stress results component has gone live as of 2/22/16. And, in the second quarter of 2016, EKG Device integration with MUSE for BMG sites has gone live for pilot site beginning 5/23/16. The intended audience would be anyone who wishes to know more about the current configurations as established in production.

## 1.2 Project Scope

The scope of the integration that is defined in this document, outlines the ORU interface portion only. There is also an ADT and orders interface, which outlines the configurations specific to those interfaces.

## 1.3 Terminology Standards –N/A

### 1.3.1 Acronyms

ADT: Admission, Discharge, Transfer HL7 message

BUC: BayCare Urge Care

BOI: BayCare Outpatient Imaging

ORM: Order message

ORU: Result message

### 1.3.2 Glossary –N/A

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

List all documents or Web addresses to which this IDBB refers;

**On the Enterprise Integration Services SharePoint site: ADT and ORM requirements**

* Enterprise Integration Services team > Applications and Systems > Muse Cardiology > Muse\_ADT\_Requirements
* Enterprise Integration Services team > Applications and Systems > Muse Cardiology > Muse\_ORM\_Requirements

**CVIS Interface Data Flow Diagram:**

* Enterprise Integration Services team > Applications and Systems > Muse Cardiology > CVIS Integration Diagram

**MUSE v8 HL7 Reference Document:**

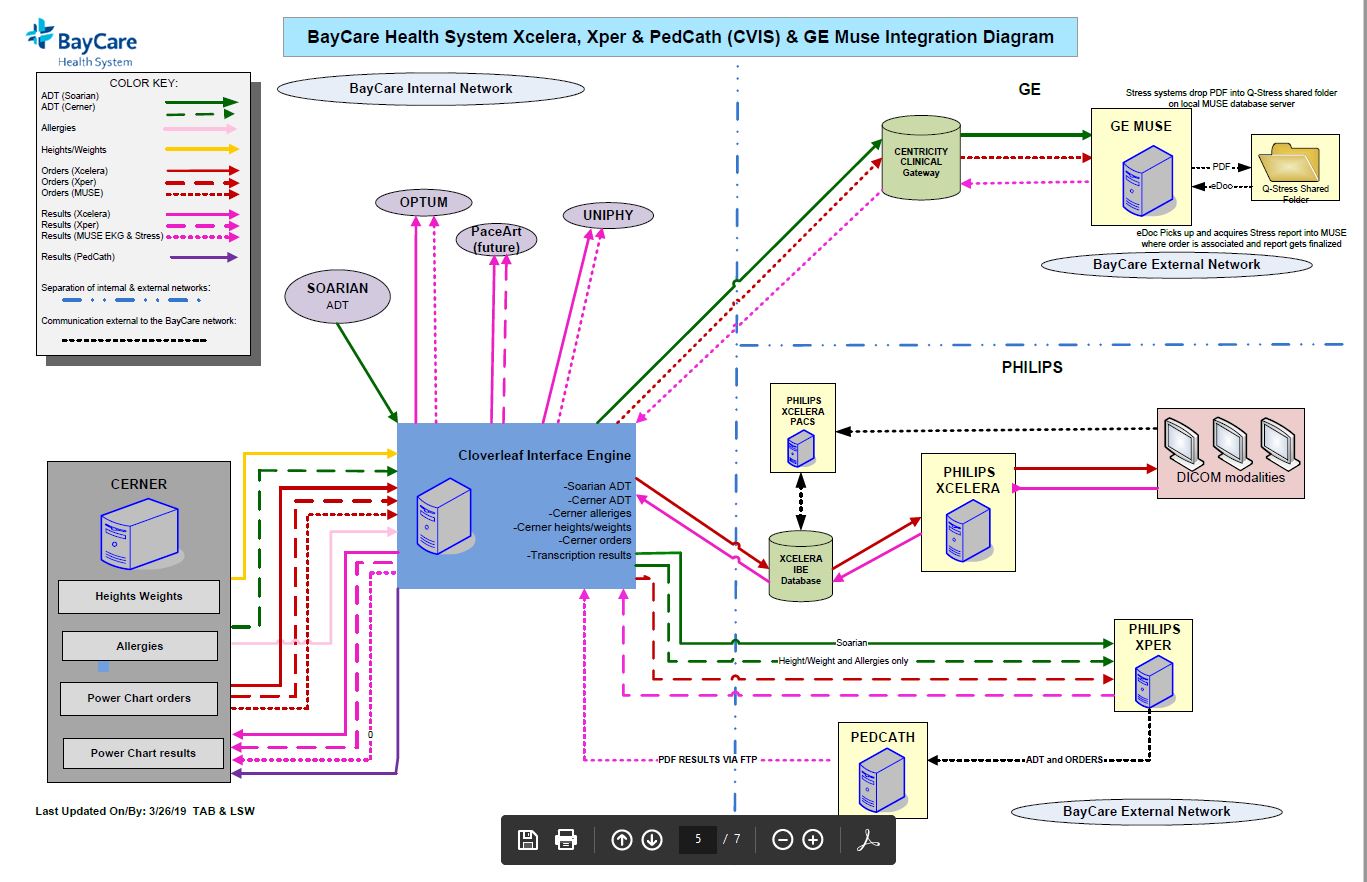
* Enterprise Integration Services team > Applications and Systems > Muse Cardiology > MUSE\_v8\_HL7Ref

**Cerner HL7 Reference Document:**

* Enterprise Integration Services team > Applications and Systems > Muse Cardiology > Cerner Unit\_10i\_-\_Result\_and\_Document\_Processing\_Inbound.pdf

# *2.* Diagram

This diagram includes the data flow for all CVIS Cardiology interfaces.



# 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.2016.02.01 | Tps\_muse\_pdf | TCL proc that converts the PDF portion of the HL7 message from UUencoded to base-64 for Cerner processing. |
|  |  |  |
| FR.2019.10.01 | Removal of Tps\_muse\_pdf | This UUdecoding/Base64encoding is now being done by GE MUSE. |
|  |  |  |

|  |  |  |
| --- | --- | --- |
| **Cerner** |  |  |
| **Number** | **Requirement Name** | **Requirement Description** |
| FR.2016.02.01 |  |  |
|  | Cerner ESI rules on the MUSE and MUSE BOI contributor systems | Muse Orders will auto complete ONLY when a Muse result message is received with the order\_id for BMG and BOI patients.  All Muse result messages with order\_ids missing will post in Cerner if the patient’s CPI and FIN are present in the message.  Encounter Match rules for BayCare FIN and BMGFN exist on the ESI rules. |

## 3.2 Non-Functional Requirements –N/A

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.xx.xx |  |  |

1. ORU Result Message processing requirements :
   * Cloverleaf blocks all (Inpatient / BMG / BOI ) ORU messages :
     1. when PID-3.1 (CPI) is blank
     2. when PID-18.1 (FIN) is blank

* Cloverleaf blocks all BMG and BOIs ‘In Process’ ORU messages:

When (MSH-6 = “\*BOI\*” or PID-18.5 = BMGFN) and OBR-25, Result Status Code = I

Note: On Inpatients, results with **‘In Process’** will be sent from Cloverleaf to Cerner.

* Cloverleaf logic needed for correct contributor system on Cerner side:

If (PID-18.4 equals “BMGFN” or MSH-4 contains the text “BOI”), set MSH-3 to “MUSE BOI”

Otherwise, default MSH-3 to “MUSE” and 18.5 = “BCFN” .

## 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>

### Muse to BayCare Cloverleaf

**EKG Documents:**

* TEST: port 13195
* PROD: port 16056

**Stress Documents:**

* TEST: port 23120
* PROD: port 23129

### 3.3.2 Outbound to BayCare Cloverleaf –N/A

* Click here to enter text.

### 3.3.3 Inbound to the Vendor –N/A

* Click here to enter text.

### 3.3.4 Outbound to the Vendor –N/A

Click here to enter text.

### 3.3.5 BayCare Cloverleaf to Cerner

|  |
| --- |
| **EKG Documents:**  **Test –M30**  Port Number: 13143  IP Address: 159.140.43.200  **Test –C30**  Port Number: 13144  IP Address: BAYCFLAPP5  **Prod**  Port Number: 13019  IP Address: 159.140.43.191  **Stress Documents:**  **Test –M30**  Port Number: 13144  IP Address: 159.140.43.200  **Test –C30**  Port Number: 13145  IP Address: BAYCFLAPP5  **Prod**  Port Number: port 9141  IP Address: 159.140.43.191 |

### 3.3.6 Outbound from BayCare Cerner –N/A

# 

# 4. HL7 Messaging

## 4.1 Messaging Format

HL7 2.3 cerner\_emr ORU\_R01

### 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 | Result message |

### 4.1*.*3 Cloverleaf Configuration Files

Cloverleaf translation file: muse\_cer\_oru

### 4.1.4 Cloverleaf Site Location

All Muse components are now on the Cardiology site.

### 4.1.5 Messages Filtered

The following messages are filtered out of the interface:

BOI (BayCare Outpatient Imaging) patients that have an OBR-25 status of “I” In progress.

Patients that have an OBR-25 status of “I” In progress with a BMG FIN # (PID-18.5 value of “BMGFN”).

Patients with no PID-3 identifiers.

Patients with no FIN # PID-18.

## 4.2 Data Transformation Requirements

| **Field Description** | **HL7 Field Loc.** | **Required Y/N** | **Data Type** | **Length** | **Notes** |
| --- | --- | --- | --- | --- | --- |
| Message Segment Header | MSH | Y | Varies | Varies | Path copy the entire segment. |
| Encoding Characters | MSH.2 | Y | ST | 4 | Hard coding “^~\&” |
| Sending Application | MSH.3 | Y | HD | 180 | If MSH.4 = “BOI” or PID-18 = “BMGFN”, hard code “MUSE BOI” into MSH.3. Else, hard code “MUSE” outbound. |
| Sending Facility | MSH.4 | Y | HD | 227 | Hard code “MUSE”.  Send facility variable inbound from MSH.4 to an @fac variable. |
| Receiving Application | MSH.5 | Y | HD | 180 | Hard code “POSTIMAGE” |
| Receiving Facility | MSH.6 | Y | HD | 180 | Copy from MSH.4 |
| Version ID | MSH.12 | Y | ID | 8 | Hard code “2.3” |
| Patient ID | PID.3.0 | Y | CX | 25 | Copy |
| Patient ID type code | PID.3.4 | Y | CX | 25 | Hard coding “BCCPI” outbound |
| Patient Name: last, first, suffix | PID.5 | Y | XPN | 48 | Copy |
| Patient Account Number ID | PID.18.0 | Y | CX | 30 | Copy |
| Order Control | ORC.1 | Y | ID | 2 | Hard coding “RE” |
| Placer Order Number | ORC.2 | Y | EI | 25 | Copy |
| Filler Order Number | ORC.3 | Y | EI | 50 | Copy from OBR.2 |
| Set ID | OBR.1 | Y | SI | 4 | Copy |
| Placer Order Number | OBR.2 | Y | EI | 25 | Copy |
| Filler order Number | OBR.3 | Y | EI | 50 | Copy from OBR.2 |
| Universal service identifier ID | OBR.4.0 | Y | CE | 200 | If @fac variable contains “BOI” or PID-18.5 = “BMGFN” then direct copy. Else, hard code “MUSEEKG”. |
| Universal service identifier text | OBR.4.1 | Y | CE | 200 | Copy |
| Observation Date/Time | OBR.7 | Y | TS | 26 | Copy |
| Result Rpt/Status Chng –Date/Time | OBR.22 | Y | TS | 26 | Copy |
| Diagnostic Serv Sect ID | OBR.24 | Y | ID | 10 | Hard coding “MDOC” |
| Result Status | OBR.25 | Y | ID | 1 | Copy |
| Principal result Interpreter | OBR.32.0 | Y | CM | 200 | Copy |
| Set ID | OBX.1 | Y | SI | 10 | Iterate through each instance of OBX segments and perform the following iterations… |
| Value Type | OBX.2 | Y | ID | 2 | Hard coding “TX” |
| Observation Identifier ID | OBX.3.0 | Y | CE | 590 | Hard coding “MUSEEKG” |
| Observation Identifier text | OBX.3.1 | Y | CE | 590 | Copy |
| Observation Sub-ID | OBX.4 | Y | ST | 20 | Copy from OBX.1 |
| Observation value | OBX.5 | Y | ST | -1 | Copy. TCL proc that evaluates text positions 0 through 8 and if the string equals “Confirmed” or “Reconfirm”, set the output to “Y”, else set the output to “N”. Copy the output to an @flag variable. |
| Observation Identifier text | OBX.3.1 | Y | CE | 590 | If @flag variable =”Y”, hard code “Electronically Signed By” outbound. Add second group iteration and increment @TXsetid variable by 1. |
| Units | OBX.6 | Y | CE | 60 | If @flag variable =”Y”, copy. |
| Observ Result Status | OBX.11 | Y | ID | 2 | If @flag variable =”Y”, copy. |
| Set ID | OBX.1 | Y | SI | 10 | If ZPD.3.0 does not =null, copy @TXsetid outbound |
| Value Type | OBX.2 | Y | ID | 2 | Hard code “ED” |
| Observation Identifier ID | OBX.3.0 | Y | CE | 590 | Hard code “MUSEEKG” |
| Observation Sub-ID | OBX.4 | Y | ST | 20 | Copy @TXsetid outbound |
| Observation Value | OBX.5.1 | Y | ST | -1 | Hard code “APPLICATION” |
| Observation Value | OBX.5.2 | Y | ST | -1 | Hard code “PDF” |
| Observation Value | OBX.5.3 | Y | ST | -1 | Hard code “BASE64” |
| Observation Value | OBX.5.4 | Y | ST | -1 | Copy from ZPD.3.0 |
| User Defined Access Checks | OBX.13 | Y | ST | 20 | Hard code “MuseWaveform.pdf” |

## 4.3 Sample Message

**INBOUND FROM MUSE:**

MSH|^~\&|MEI MUSE|BAH|HIS SYSTEM|BAH|20160126085531||ORU^R01|20160126085531|P|2.2

PID|1|300141246|300141246||GERIS^BAH||19640330|M||U||||||||6000009691

PV1|1|I|ICU^0167^W^S||||MS011948^Bailey^Christian||||||||||||6000009691|||||||||||||||||||||||||20151116114600

OBR|1|7528179265||EKG^EKG 12 Lead^^^12 Lead ECG||20160126085531|20150126102646||||||User Defined|20160126085523||MS010772^Samper Pena^Carolina||||235||20160126085531|||I||||||Chest Pain||||^TEMMING^SHANNON^SHANNON^^^^^^^20010|20160126075200

OBX|1|ST|93000.2^Ventricular Rate||0|BPM|||||I

OBX|2|ST|93000.3^Atrial Rate||0|BPM|||||I

OBX|3|ST|93000.5^QRS Duration||0|ms|||||I

OBX|4|ST|93000.6^Q-T Interval||0|ms|||||I

OBX|5|ST|93000.7^QTC Calculation(Bezet)||0|ms|||||I

OBX|6|ST|CPT4^R Axis||0|degrees|||||I

OBX|7|ST|CPT4^T Axis||0|degrees|||||I

OBX|8|TX|CPT4^Diagnosis||\*\* No QRS complexes found, no ECG analysis possible \*\*||||||I

OBX|9|TX|CPT4^Diagnosis||No previous ECGs available||||||I

ZPD|1|PDF|9344^7720^begin 644 WAV.DAT\X0D\\X0A\M)5!$1BTQ+C`\*)>+CS]/H"B`@-2`P(\T\]B:CP\E\+U1Y<\T\4@+T-A=\T\%L;V<@+U!A\X0D\\X0A\M9V5S(#$@,"!2("]/=71L:6YE<R`R(#`@4CX\S\96YD;V)J"B`@-B`P(\T\]B:CP\E\\X0D\\X0A\M+U1Y<\T\4@+T9O;G0@+U-U8G1Y<\T\4@+U1Y<\T\4Q("].86UE("]40DD@+T5N8V]D\X0D\\X0A\M:6YG("]7:6Y!;G-I16YC;V1I;F<@+T)A<V5\T\;VYT("]4:6UE<RU";VQD271A\X0D\\X0A\M;\T\EC/CYE;F1O8FH\*("`W(#`@;V)J/#PO5'EP92`O1F]N="`O4W5B='EP92`O\X0D\\X0A\M5'EP93$@+TYA;64@+TA0("`O16YC;V1I;F<@+U=I;D%N<VE%;F-O9\T\EN9R`O\X0D\\X0A\M0F%S949O;G0@+TAE;'9E=\T\EC83X\S\96YD;V)J"B`@."`P(\T\]B:CP\E\+U1Y<\T\4@\X0D\\X0A\M+T9O;G0@+U-U8G1Y<\T\4@+U1Y<\T\4Q("].86UE("](0B`@+T5N8V]D:6YG("]7\X0D\\X0A\M:6Y!;G-I16YC;V1I;F<@+T)A<V5\T\;VYT("](96QV971I8V$M0F]L9#X\S\96YD\X0D\\X0A\M;V)J"B`@.2`P(\T\]B:CP\E\+U1Y<\T\4@+T9O;G0@+U-U8G1Y<\T\4@+U1Y<\T\4Q("].\X0D\\X0A\M86UE("](22`@+T5N8V]D:6YG("]7:6Y!;G-I16YC;V1I;F<@+T)A<V5\T\;VYT\X0D\\X0A\M("](96QV971I8V$M3V)L:7%U93X\S\96YD;V)J"B`Q,"`P(\T\]B:CP\E\+U1Y<\T\4@\X0D\\X0A\M+T9O;G0@+U-U8G1Y<\T\4@+U1Y<\T\4Q("].86UE("](0DD@+T5N8V]D:6YG("]7\X0D\\X0A\M:6Y!;G-I16YC;V1I;F<@+T)A<V5\T\;VYT("](96QV971I8V$M0F]L9$]B;\T\EQ\X0D\\X0A\M=64\S\/F5N9\T\]B:@H@,3$@,"!O8FH\E\/"]4>7!E("]\T\;VYT("]3=6)T>7!E("]4\X0D\\X0A\M>7!E,2`O3F%M92`O0U`@("]%;F-O9\T\EN9R`O5VEN06YS:45N8V]D:6YG("]"\X0D\\X0A\M87-E1F]N="`O0V]U<FEE<CX\S\96YD;V)J"B`Q,B`P(\T\]B:CP\E\+U1Y<\T\4@+T9O\X0D\\X0A\M;G0@+U-U8G1Y<\T\4@+U1Y<\T\4Q("].86UE("]#0B`@+T5N8V]D:6YG("]7:6Y!\X0D\\X0A\M;G-I16YC;V1I;F<@+T)A<V5\T\;VYT("]#;W5R:65R+4)O;\T\0\S\/F5N9\T\]B:@H@\X0D\\X0A\M,3,@,"!O8FH\E\/"]4>7!E("]\T\;VYT("]3=6)T>7!E("]4>7!E,2`O3F%M92`O\X0D\\X0A\M0TD@("]%;F-O9\T\EN9R`O5VEN06YS:45N8V]D:6YG("]"87-E1F]N="`O0V]U\X0D\\X0A\M<FEE<BU/8FQI<75E/CYE;F1O8FH\*(#$T(#`@;V)J/#PO5'EP92`O1F]N="`O\X0D\\X0A\M4W5B='EP92`O5'EP93$@+TYA;64@+T-"22`O16YC;V1I;F<@+U=I;D%N<VE%\X0D\\X0A\M;F-O9\T\EN9R`O0F%S949O;G0@+T-O=7)I97(M0F]L9$]B;\T\EQ=64\S\/F5N9\T\]B\X0D\\X0A\M:@H@,34@,"!O8FH\E\/"]4>7!E("]\T\;VYT("]3=6)T>7!E("]4>7!E,2`O3F%M\X0D\\X0A\M92`O5%`@("]%;F-O9\T\EN9R`O5VEN06YS:45N8V]D:6YG("]"87-E1F]N="`O\X0D\\X0A\M5\T\EM97,M4F]M86X\S\/F5N9\T\]B:@H@,38@,"!O8FH\E\/"]4>7!E("]\T\;VYT("]3\X0D\\X0A\M=6)T>7!E("]4>7!E,2`O3F%M92`O5$(@("]%;F-O9\T\EN9R`O5VEN06YS:45N\X0D\\X0A\M8V]D:6YG("]"87-E1F]N="`O5\T\EM97,M0F]L9#X\S\96YD;V)J"B`Q-R`P(\T\]B\X0D\\X0A\M:CP\E\+U1Y<\T\4@+T9O;G0@+U-U8G1Y<\T\4@+U1Y<\T\4Q("].86UE("]422`@+T5N\X0D\\X0A\M8V]D:6YG("]7:6Y!;G-I16YC;V1I;F<@+T)A<V5\T\;VYT("]4:6UE<RU)=\T\%L\X0D\\X0A\M:6,\S\/F5N9\T\]B:@H@,3@@,"!O8FH\E\/"](4"`W(#`@4B`O2$(@."`P(%(@+TA)\X0D\\X0A\M(#D@,"!2("](0DD@,3`@,"!2("]#4"`Q,2`P(%(@+T-"(#$R(#`@4B`O0TD@\X0D\\X0A\M,3,@,"!2("]#0DD@,30@,"!2("]44"`Q-2`P(%(@+U1"(#$V(#`@4B`O5$D@\X0D\\X0A\M,3<@,"!2("]40DD@-B`P(%(\S\/F5N9\T\]B:@HR,B`P(\T\]B:CP\E\+U!R;V-3970@\X0D\\X0A\M6R]01$8@+U1E>'1=("]\T\;VYT(#$X(#`@4CX\S\96YD;V)J"C(P(#`@;V)J/#PO\X0D\\X0A\M5'EP92`O4\T\%G92`O365D:6%";W@@6S`@,"`V,3(@-SDR72`O4\T\%R96YT(#$@\X0D\\X0A\M,"!2("]297-O=7)C97,@,C(@,"!2("]#;VYT96YT<R`R,2`P(%(@+U)O=\T\%T\X0D\\X0A\M92`Y,"`O06YN;W1S(%M=/CYE;F1O8FH\*,C$@,"!O8FH\E\/"`O3\T\5N9W1H(#(V\X0D\\X0A\M-#@@+T9I;'1E<B`O1FQA=\T\5$96-O9\T\4\S\/@IS=')E86T\*>)R-FTU3'$<61??\E\\X0D\\X0A\MBEK:"F/5?5F95<4.(4+RA/5AU)X81WC3!F0S(8$#9,\_XWT\_1K:;/?6@F1@NB\X0D\\X0A\MFY<OJ=-U.\_-T@OJN\_[:/J=3N</>@[YIB\S\7K\S\L3M0[?YUL!26?]V+W8-?#YZM\X0D\\X0A\M#IZNWG8E\S\F[U\_N!T=:!EF+;5\_MNQ7[[\_\S\=G9BX-:EV=M\S\?\*QVSRLX\_+U0\_?N\X0D\\X0A\MH.T+S0KCOC!:8=H7)BNHWU>VC\_<EH20O!4KAI8)2\E\1\*`Y$0"DIQ)@))3"5AR\X0D\\X0A\MK@!7.%>`\*YPKP!7.%>`\*YPIPA7,%N,\*Y`ESA7`\T\N<\*X"KN)<!5S%N0JXBG,5\X0D\\X0A\M<!7G\*N`JSE7`59RK@\*LX5P%7<:X!7(-S#>`:G\T\L`U\S\!<`[@\T\YQK`-3C7`\*[!\X0D\\X0A\MN09P#<XU@\T\MPK@JNZEP57-6Y\*KBJ<U5P5>>JMF!X"5S5N2JXJG-5<%7G:N!J\X0D\\X0A\MSM7`U9RK@:LY5P-7<ZX\T\KI960BZ%SM7`U9RK@:LYUPBNT;E\T\<(W.-8)K=\*X1\X0D\\X0A\M7\*-SC>`:G6L$UYC6>"[RSC6":W2N"5R3<TW@FIQK`M?D7!.X)N>:P#4YUP2N\X0D\\X0A\MR;DF<$UI]\S\+VY5PSN\T\;GFL$U.]<,KMFY9G#-SC6#:W:N\T\5RS<\E\W@FIUK!M><\X0D\\X0A\M]V7;F-/.W'-K[M/>W'-S[M/NW'-[[M/\S\W'.#[M,.W7.+[M,>W7.3[M,NW7.;\X0D\\X0A\M[A.G"<@C`S$%29PF(=E"3$.RAYB(9!,Q%<DN8C\*2;<1T)/F(\*"1\*1B(JB2\*[\X0D\\X0A\MELE6XJ26\*'F)\*"9\*9B\*JB9\*;B'\*B9">BGBCYB2@H2H8B\*HJ2HXB2HI\*MTK0R\X0D\\X0A\M<5)4E$Q%5!4E5Q%E1<E61%U1\E\A516)2,1506)6<1I47)6D1M4?(645R4S$54\X0D\\X0A\M%R5W$>5%R5Y$?5'R%U%@E`Q\T\5!@EAQ$E1LEB1(U1??0Y@<7$2951<AE19I1L\X0D\\X0A\M1M09)9\E\1A4;):$2E47(:46J4K$;4\T\B6O$<5\T\+7\E\B(F=R\T\U%NE.Q\T\U!LEOQ$%\X0D\\X0A\M1\E\EP1,51<AQ1<I0L1]0<)<\E\114?)=$3547(=47:4;$?4'27?$85'R7A$Y5%R\X0D\\X0A\M'E%ZE\*Q'U!XE[Q'%1\E\E\E\1/51<A]1?I3L1]0?)?\E\1!4C)@$0%4G(@48\*4+$C4\X0D\\X0A\M("4/$D5(R81$%5)R(5\T\\T\E\T\Q(U"$E'PKZ4"0?"OI0)!\E\\*\S\E`D'PKZ4"0?"OI0\X0D\\X0A\M)!\E\\*\S\E`D'PKZ4"0?"OI0)!\E\\*\S\E`D'PKZ4"0?"OI0)!\E\\*\S\E`D'PKZ4"0?"OI0\X0D\\X0A\M)!\E\\*\S\E`D'PKZ4.3S\T\3N@R2<T=D3SZ(S\T\#FD2IQW3Y',:.ZC))S5V5)//:NRP\X0D\\X0A\M)I\_6V'%-\E\J\T\@#T7RH:`/1?\*AH`]%\E\J\T\@#T7RH:`/1?\*AH`]%\E\J\T\@#T7RH:`/\X0D\\X0A\M1?\*AH`]%\E\J\T\@#T7RH:`/1?\*AH`]%\E\J\T\@#T7RH:`/1?\*AH`]%\E\J\T\@#T7RH:`/\X0D\\X0A\M1?\*AH`]%\E\J\T\@#T7RH:`/1?\*AH`]%\E\J\T\@#T7RH:`/1?\*AH`]%\E\J\T\@#T7RH:`/\X0D\\X0A\M1?\*AH`]%\E\J\T\@#T7RH:`/1?\*AH`]%\E\J\T\@#T7RH:`/1?\*AH`]%\E\J\T\@#T7RH>'\S\\X0D\\X0A\MV?BY%+LG#Y6)E8F5F949E<TJN\*MLGCQ4@I5@I;!26!E8\T\5BIK%16R!/D"?($\X0D\\X0A\M>8(\E\09Y"GD\*>0IY"GD\*>0IY"GD\*>0IY"GD\*>0IY"GD\*>0IY"GH$\E\``9A4PI9$XADPJ9\X0D\\X0A\M5<BT0N85,K\T\0F85,+61N(9,+F5W(]$+F%S+!D!F\T\3#%DCB\T\3#)EER#1#YADR\X0D\\X0A\MT9"9ADPU9\*XADPV9;<AT0\S\8;,N\T\0\T\8=,.63.(9,.F77(M$/F'3+QT(-Y1.4?\X0D\\X0A\MW53\_HYM-X];XMW/LR.=]8;:"T"+O$9KD78\T\N\E\\*Y`5WA705?QKH\*NXET#H;QK\X0D\\X0A\M0-?@715=U;LJNJIW-70U[VKH:MXUHFOTKA%=HW=-Z)J\E\:T+7Y%TSNN9TCWF3\X0D\\X0A\MTUWN>9O[=)][WN@\S\=5I`<D(L(BDC8DB44B+\T\1"DG8E"4DB)\T\126GV>\*<.AD7\X0D\\X0A\MI;R(@5%\*C!@9I<R(H5%\*C1@;I=R(P5%\*CA@=I>R(X5%\*CQ@?I?R(`5)\*D!@A\X0D\\X0A\MI0P%,Q0I0\E\$,1<I0,$.1,A3,4.1UQA::O-+84I,R%,Q0I`P%,Q0I0\E\$,1<I0\X0D\\X0A\M,$.1,A3,4\*0,!3,4\*4/!#$7\*4#!#D3+$OOWON':5S>GSP\_\T\\T\6\T\%/L\*>PI["G\X0D\\X0A\ML\*>P9V#/P)Z!/0-[\*GLJ>RI[\*GL:>QI[\T\GL:>T;VC.P9V3.R9V+/Q)Z)/1-[\X0D\\X0A\M9O;,[)G9,[-G\S\\S\<O>\S\\T\7U>RV]M8GZY/U>1PL#[)`R!(ABX0L$[)0R%(ABX4L\X0D\\X0A\M%[)@R)(ABX8L\T\[)PR-(ABX<>\E\E'Z\_T\S\,[\T\VRFV3[=AKRX\S\V@N\_0'T<]6V\S\IF\X0D\\X0A\M#5Q==%]U/W]U?=-=K#\S\M?\_[ZZV[US\S\YTM1NT+)1E.\S\C%Z=EW[[[IGAV\_Q)#-\X0D\\X0A\ML<1\S\S'?/CTK?+Z]3#``P(\T\]B:CP\E\+U1I=\T\QE("A7879E9F]R;7,I("]$97-T(%LR,"`P(%(@+T9I\X0D\\X0A\M=%T@+TYE>'0@,C,@,"!2("]0<F5V(#8U-3,U(#`@4B`O4\T\%R96YT(#(@,"!2\X0D\\X0A\M/CYE;F1O8FH\*,B`P(\T\]B:CP\E\+U1Y<\T\4@+T]U=\T\QI;F5S("]#;W5N="`Q("]\T\\X0D\\X0A\M:7)S="`Q.2`P(%(@+TQA<W0@,3D@,"!2/CYE;F1O8FH\*,R`P(\T\]B:CP\E\+T%U\X0D\\X0A\M=\T\AO<B`H355315PH4EPI($YE='=O<FL@4V5R:65S\*2`O0W)E871I;VY$871E\X0D\\X0A\M("A$.C(P,38P,3(V,#@U-2D@"B`@("`O5\T\ET;\T\4@\*$U54T5<\*%)<\*2!297!O\X0D\\X0A\M<G0@1F]R($=%4DE3+"!"04@@,S`P,30Q,C0V\*2`O4W5B:F5C="`H355315PH\X0D\\X0A\M4EPI(%)E<\T\]R="D@+T-R96%T;W(@\*$U54T5<\*%)<\*2!.971W;W)K(%-E<FEE\X0D\\X0A\M<RD@"B`@("`O4')O9'5C97(@\*$U54T5<\*%)<\*2!.971W;W)K(%-E<FEE<RD@\X0D\\X0A\M/CYE;F1O8FH\S\/@HQ(#`@;V)J/#P@+U1Y<\T\4@+U!A9V5S("]+:61S(%LR,"`P\X0D\\X0A\M(%(@72`O0V]U;G0@,3X\S\96YD;V)J"GAR968\*("`@("`P("`@(#(T"C`P,#`P\X0D\\X0A\M,#`P,#`@-C4U,S4@9B`\*,#`P,#`P-#@W,2`P,#`P,"!N(`HP,#`P,#`T-34T\X0D\\X0A\M(#`P,#`P(\T\X@"C`P,#`P,#0V,C,@,#`P,#`@;B`\*,#`P,#`P,#`P,"`V-34S\X0D\\X0A\M-2!F(`HP,#`P,#`P,#$V(#`P,#`P(\T\X@"C`P,#`P,#`P-SD@,#`P,#`@;B`\*\X0D\\X0A\M,#`P,#`P,#$Y,B`P,#`P,"!N(`HP,#`P,#`P,CDX(#`P,#`P(\T\X@"C`P,#`P\X0D\\X0A\M,#`T,#D@,#`P,#`@;B`\*,#`P,#`P,#4R,R`P,#`P,"!N(`HP,#`P,#`P-C0Q\X0D\\X0A\M(#`P,#`P(\T\X@"C`P,#`P,#`W-#4@,#`P,#`@;B`\*,#`P,#`P,#@U-"`P,#`P\X0D\\X0A\M,"!N(`HP,#`P,#`P.38V(#`P,#`P(\T\X@"C`P,#`P,#$P.#(@,#`P,#`@;B`\*\X0D\\X0A\M,#`P,#`P,3$Y,"`P,#`P,"!N(`HP,#`P,#`Q,CDW(#`P,#`P(\T\X@"C`P,#`P\X0D\\X0A\M,#$T,#8@,#`P,#`@;B`\*,#`P,#`P-#0U-"`P,#`P,"!N(`HP,#`P,#`Q-C`Y\X0D\\X0A\M(#`P,#`P(\T\X@"C`P,#`P,#$W,S0@,#`P,#`@;B`\*,#`P,#`P,34U-B`P,#`P\X0D\\X0A\M,"!N(`HP,#`P,#`P,#`P(#8U-3,U(\T\8@"G1R86EL97(\*/#P\*+U-I>F4@,C0\*\X0D\\X0A\M+TEN9F\E\@,R`P(%(\*+U)O;W0@-2`P(%(\*"CX\S\"G-T87)T>')E9@HT.3(W"B4E\X0D\\X0A\#14]\T\\X0D\\X0A\`\X0D\\X0A\end\X0D\\X0A\

**OUTBOUND TO CERNER:**

MSH|^~\&|MUSE|MUSE|POSTIMAGE|BAH|20160126085531||ORU^R01|20160126085531|P|2.3

PID|||300141246^^^^BCCPI||GERIS^BAH|||||||||||||6000009691^^^^BCFN

ORC|RE|7528179265|7528179265

OBR|1|7528179265|7528179265|MUSEEKG^EKG 12 Lead|||20150126102646|||||||||||||||20160126085531||MDOC|I

OBX|1|TX|MUSEEKG^Ventricular Rate|1|0|BPM|||||I

OBX|2|TX|MUSEEKG^Atrial Rate|2|0|BPM|||||I

OBX|3|TX|MUSEEKG^QRS Duration|3|0|ms|||||I

OBX|4|TX|MUSEEKG^Q-T Interval|4|0|ms|||||I

OBX|5|TX|MUSEEKG^QTC Calculation(Bezet)|5|0|ms|||||I

OBX|6|TX|MUSEEKG^R Axis|6|0|degrees|||||I

OBX|7|TX|MUSEEKG^T Axis|7|0|degrees|||||I

OBX|8|TX|MUSEEKG^Diagnosis|8|\*\* No QRS complexes found, no ECG analysis possible \*\*||||||I

OBX|9|TX|MUSEEKG^Diagnosis|9|No previous ECGs available||||||I

OBX|10|ED|MUSEEKG|10|^APPLICATION^PDF^BASE64^||||||||MuseWaveform.pdf

# **5. Testing**

## 5.1. Unit Testing Scenarios –N/A

|  |  |
| --- | --- |
| **Scenario** | **Expected Result** |
| Muse creates stress echo result; this pdf passes and displays within Cerner. | Pass |
|  |  |
|  |  |
|  |  |
|  |  |

## 5.2 Integrated Testing Scenarios –N/A

|  |  |
| --- | --- |
| **Scenario** | **Expected Result** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## 5.3 Testing Approvals –N/A

|  |  |  |  |
| --- | --- | --- | --- |
| **Testing Phase** | **Date** | **Department** | **Team Member** |
| PH1.UNIT | 2/21/2016 | Diagnostic Team | Shannon Temming |
| PH1.INTEGRATED | 2/21/2016 | Diagnostic Team | Shannon Temming |

### 

## 5.4 Piloting

List the facilities and associated networks in scope for pilot testing.

## 5.5 Approvals

|  |  |  |  |
| --- | --- | --- | --- |
| **Testing Phase** | **Date** | **Department** | **Team Member** |
| PH1.0 |  |  |  |
|  |  |  |  |
|  |  |  |  |

# 6. Deployment / Implementation Model

Provide the detail as to how to deploy the solution defined in the IDBB from both the BAYCARE and vendor perspective.

# Appendix A: Risks and Concerns –N/A

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

# 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** | | |  |  |  |
| I.2013.1.0 |  |  | |  | |  |  |  |

* End of document