



HL7 Result Export HL7 Specification v2.3

Orchard® Enterprise Lab™

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Overview

Preface

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Scope of this Document

This document provides specifications for the export of Results from Orchard Enterprise Products.

Event/Message Structure

Braces { . . . } indicate one or more of the enclosed group of segments. Brackets [. . .] show that the enclosed group of segments is optional.

Escape Sequences

Control characters and HL7 message delimiters are represented in the message by the following escape sequences.

\	\E\
	\F\
^	\S\
~	\R\
&	\T\
Tab	Replaced with 5 space characters
CRLF	\X0D0A\

The Results Interface (Outbound)

ORU event (R01) – Unsolicited Transmission of an observation message

The ORU message (unsolicited transmission of an observation message - event R01) is used to send the results of lab orders from Orchard back to the host system. Each ORU message has at least one OBR segment and at least one OBX segment. Default message contains one ORC with one or more OBR segments.

Orchard uses the segments and non-shaded fields listed below. Field lengths are shown for fields that differ from HL7 data type field lengths.

{ } Indicate repeating segments

[] Indicate optional segments

Message Segments	Segment Name	Comments
MSH	Message Header	
PID	Patient Identification	
{{NTE}}	Notes and Comments (for Patient ID)	
[PV1]	Patient Visit	
[PD1]	Patient Additional Demographics	
{ORC	Common Order	
{{NTE}}	Notes and Comments (for Order)	
[[OBR]	Observation Request (Lab Order)	
{NTE}}	Notes and Comments (for Order Choice)	
{OBX	Observation/Result	
[[NTE]]}	Notes and Comments (for Results)	

Segment Fields

MSH – Message Header

Seg/Field	HL7 Name	Orchard Name	Length	Orchard Comments
MSH-1	Field Separator		1	' ' (ASCII 124)
MSH-2	Encoding Characters		4	'^~\&' where '^' is the component delimiter (ASCII 94) '~' is the repeat delimiter (ASCII 126) '\' is the escape delimiter (ASCII 92) '&' is the subcomponent delimiter (ASCII 38)
MSH-3.1	Sending Application Namespace ID	Sending application		MSH field 3 override if not blank or the System ID
MSH-4.1	Sending Facility Namespace ID	Sending facility		MSH field 4 override if not blank or the System ID
MSH-5.1	Receiving Application Namespace ID	Receiving application		MSH field 5 override if not blank or the Host Name
MSH-6.1	Receiving Facility Namespace ID	Receiving facility		MSH field 6 override if not blank or the Host ID
MSH-7	Date/Time of Message			
MSH-8	Security			
MSH-9	Message Type			Components: <message type (ID)> ^ <trigger event (ID)>. ORU^R01 for results (ORU) events.
MSH-10	Message Control ID			Unique Message number
MSH-11	Processing ID			MSH field 11 override if not blank or 'P'
MSH-12	Version ID			'2.3'
MSH-13	Sequence Number			
MSH-14	Continuation Pointer			
MSH-15	Accept Acknowledgment Type			'AL' if "Expect ACK from Host is set 'NE' otherwise
MSH-16	Application Acknowledgment Type			

Example:

MSH|^~\&|Orchard|Lab|CPI|Host|20030424150217||ORU^R01|496|P|2.3|||AL|AL

PID – Patient Identification

Seg/Field	HL7 Name	Orchard Name	Length	Orchard Comments
PID-1	Set ID	Sequence #		
PID-2.1	Patient ID	Patient ID	16	
PID-3.1	Patient ID	Patient ID	16	
PID-4	Alternate Patient ID	Patient ID		
PID-5.1	Patient Family Name	Patient last name	30	
PID-5.2	Given Name	Patient first name	30	
PID-5.3	Middle Initial or Name	Patient MI	2	
PID-5.4	Suffix	Patient Suffix		

PID-5.5	Prefix	Patient Prefix		
PID-5.6	Degree	Patient Degree		
PID-6	Mother's Maiden Name			
PID-7	Date/Time of Birth	DOB		Formatted as YYYYMMDDHHMM
PID-8	Sex	Sex	1	'M' = Male 'F' = Female 'U' = Unknown
PID-9	Patient Alias	Patient Alias		
PID-10.1	Race Identifier	Race host code	80	
PID-11.1	Street Address	Street address1	30	
PID-11.2	Other Designation	Street address2	30	
PID-11.3	City	City	30	
PID-11.4	State or Province	State	2	
PID-11.5	Zip or Postal Code	Zip code	10	
PID-11.6	Country	Country	30	
PID-12	County Code		4	
PID-13.1	Phone Number – home	Phone1	10	
PID-13.4	Email Address	Email Address		
PID-14.1	Phone Number – business	Phone2	10	
PID-15	Primary Language			
PID-16	Marital Status			
PID-17	Religion			
PID-18	Patient Account Number	Patient Account Number		
PID-19	SSN – Patient	SSN	10	
PID-20	Driver's License Number – Patient			
PID-21	Mother's Identifier			
PID-22	Ethnic Group	Ethnicity		
PID-24	Multiple Birth Indicator			
PID-25	Birth Order			
PID-26	Citizenship			
PID-27	Veteran Military Status			
PID-28	Nationality	Nationality		
PID-29	Patient Death Date/time			
PID-30	Death Indicator			

Example PID:

PID|1|51748|51748||Sample^Patient^T||19680524|M||W|555 North St.^DODGE CITY^KANSAS^67801|||(333)222-9999|(346)123-4567|||VENDOR acct#|444117777|

NTE – Notes and Comments

Seg/Field	HL7 Name	Orchard Name	Length	Orchard Comments
NTE-1	Set ID	Sequence number		Incremented w/each NTE for parent segment
NTE-2	Source of Comment			
NTE-3	Comment	Comment		
NTE-4	Comment Type	Comment Type		'SU' = non-reportable comment

Example NTE:

NTE|1|L|text

PV1 – Patient Visit (visit-specific demographics)

Seg/Field	HL7 Name	Orchard Name	Length	Orchard Comments
PV1-1	Set ID		1	
PV1-2	Patient Class	Patient Status		'I' = Inpatient, 'O' = Outpatient, or custom patient status host code
PV1-3.1	Point of Care		80	
PV1-3.2	Room	Room number		
PV1-3.3	Bed			
PV1-3.4.1	Facility Namespace ID	Collection Location abbrev	30	
PV1-3.4.2	Facility Universal ID	Collection Location host code	80	
PV1-4	Admission Type	Admission Type host code		
PV1-5	Pre-admit Number			
PV1-6	Prior Patient Location			
PV1-7	Attending Physician	Attending Provider		
PV1-8	Referring Physician	Referring Provider		
PV1-9	Consulting Doctor			
PV1-10	Hospital Service	Hospital Service		
PV1-11	Temporary Location			
PV1-12	Pre-admit Test Indicator			
PV1-13	Re-admission Indicator			
PV1-14	Admit Source			
PV1-15	Ambulatory Status			
PV1-16	VIP Indicator			
PV1-17	Admitting Physician			
PV1-18	Patient Type	Patient Type host code		
PV1-19.1	Visit Number ID	Encounter number	60	
PV1-20	Financial Class	Financial Class host code		
PV1-21	Chg Price Indicator			
PV1-22	Courtesy Code			

PV1-23	Credit Rating			
PV1-24	Contract Code			
PV1-25	Contract Effective Date			
PV1-26	Contract Amount			
PV1-27	Contract Period			
PV1-28	Interest Code			
PV1-29	Transfer to Bad Debt Code			
PV1-30	Transfer to Bad Debt Date			
PV1-31	Bad Debt Agency Code			
PV1-32	Bad Debt Transfer Amt			
PV1-33	Bad Debt Recovery Amt			
PV1-34	Delete Account Indicator			
PV1-35	Delete Account Date			
PV1-36	Discharge Disposition			
PV1-37	Discharge to Location			
PV1-38	Diet Type			
PV1-39	Servicing Facility			
PV1-40	Bed Status			
PV1-41	Account Status			
PV1-42	Pending Location			
PV1-43	Prior Temporary Location			
PV1-44	Admit Date/Time	Encounter admit date/time		YYYYMMDDHHMMSS
PV1-45	Discharge Date/Time	Encounter discharge date/time		YYYYMMDDHHMMSS
PV1-50		Orchard Order ID		

Example PV1:

```
PV1|1||123^^^Exam 4&ns18|||andersonjb^anderson^james^b|||
Visit Nbr 4|||20030512103000|20030514123800|
```

ORC – Common Order

Seg/Field	HL7 Name	Orchard Name	Length	Orchard Comments
ORC-1	Order Control	Order control	2	'RE' = Observations to follow
ORC-2.1	Placer Order Number	Placer ID	20	
ORC-3.1	Filler Order Number	Filler ID	20	
ORC-4	Placer Group Number			
ORC-5	Order Status			

ORC-6	Response Flag			
ORC-7	Quantity/Timing	Draw Date		YYYYMMDDHHMMSS
ORC-8	Parent			
ORC-9	Transaction Date/Time	Ordered Date		YYYYMMDDHHMMSS
ORC-10.1	Entered By ID number	Tech host code	80	
ORC-10.2	Entered By Family name	Tech last name	30	
ORC-10.3	Given Name	Tech first name	30	
ORC-10.4	Middle Initial	Tech initial	30	
ORC-10.7	Degree	Tech degree		
ORC-11	Verified by			
ORC-12.1	Ordering Provider ID	Ordering Provider Host Code		
ORC-12.2	Ordering Provider Last Name	Ordering Provider Last Name		
ORC-12.3	Ordering Provider First Name	Ordering Provider First Name		
ORC-12.4	Ordering Provider Middle Name	Ordering Provider Middle Name		
ORC-13	Enterer's Location	Ordering Location		
ORC-13.4.1	Facility Namespace ID	Order Location Abbrev	30	
ORC-13.4.2	Facility Universal ID		80	
ORC-14	Callback Phone			
ORC-15	Order Effective Date/Time			
ORC-20	Advance Beneficiary Notice Code	ABN Status		Refused to sign = 4 Signed = 2 Signed Don't Bill = 2 None = 1

Example ORC:

ORC|RE|0000012674|SID123|||||18^Fox^Randy|||Wclinic^414^D^^^|20031231

OBR – Observation Request (Lab Order)

Seg/Field	HL7 Name	Orchard Name	Length	Orchard Comments
OBR-1	Set ID	Sequence number		Incremented w/each OBR
OBR-2.1	Placer Order Number	Placer SID	20	
OBR-3.1	Filler Order Number	Orchard SID	20	
OBR-3.2	Entity Identifier Namespace ID		80	
OBR-4.1	Universal Service ID	Panel host code	80	
OBR-4.2	Universal Service ID Text	Panel abbrev	12	

OBR-5	Priority	Priority host code		
OBR-6	Requested Date/Time			
OBR-7	Observation Date/Time	Draw date/time		YYYYMMDDHHMMSS
OBR-8	Observation End Date/Time			
OBR-9	Collection Volume			
OBR-10.1	Collector Identifier ID Number	Phleb host code	80	
OBR-10.2	Collector Identifier Family Name	Phleb last name	30	
OBR-10.3	Given Name	Phleb first name	30	
OBR-10.4	Middle Initial	Phleb initial	30	
OBR-10.7	Degree	Phleb degree		
OBR-11	Specimen Action Code	Reflex Flag		
OBR-12	Danger Code			
OBR-13	Relevant Clinical Info	Fasting		Fasting information: -Blank if not fasting -"Fasting: x hours" -"Fasting: Unknown"
OBR-14	Specimen Received Date/Time	Sample delivery date/time		YYYYMMDDHHMMSS
OBR-15.1.1	Specimen Source Name or Code Identifier	Sample type host code	80	
OBR-16.1	Ordering Provider ID Number	Ordering provider host code	80	
OBR-16.2	Ordering Provider Last Name	Ordering provider Last Name	30	
OBR-16.3	Ordering Provider First Name	Ordering provider First Name	30	
OBR-16.4	Ordering Provider Middle Name	Ordering Provider Middle Name	30	
OBR-16.5	Degree	Ordering Provider degree		
OBR-16.x		Billing ID		
OBR-17	Order Callback Phone Number			
OBR-18	Placer Field #1	Pass thru field		
OBR-19	Placer Field #2	Pass thru field		

OBR-20	Filler Field #1		80	
OBR-21	Filler Field #2			
OBR-22	Results Rpt/Status Change - Date/Time	Approval date/time		YYYYMMDDHHMMSS
OBR-23	Chg to Practice			
OBR-24	Diagnostic Serv Sect ID	Testing Location		
OBR-25	Result Status	Result status	1	'C' = Corrected 'F' = Final 'P' = Preliminary
OBR-26	Parent Result			
OBR-27.1	Quantity			
OBR-27.2	Interval			
OBR-27.3	Duration			
OBR-27.4	Start Date/Time	Scheduled draw date/time		YYYYMMDDHHMMSS
OBR-27.5	End Date/Time			
OBR-27.6	Priority	Priority host code	1	
OBR-28	Result Copies To	Repeated list of providers		Delimited list of CC providers, ~ delimited.
OBR-29.1	Parent's Placer Order Number	Parent Placer SID		
OBR-29.2	Parent's Filler Order Number	Parent Filler SID		
OBR-30	Transport Mode	Profile Indicator		
OBR-31	Reason for Study			
OBR-32	Principle Result Interpreter			
OBR-33	Assistant Result Interpreter			
OBR-34.1.1	Technician ID Number	Tech host code	80	
OBR-34.1.2	Technician Family Name	Tech last name	30	
OBR-34.1.3	Technician Given Name	Tech first name	30	
OBR-34.1.4	Technician Middle Name	Tech middle name	30	
OBR-45	Procedure Code Modifier	ABN status		'GA' = ABN Signed 'GA' = ABN Signed don't bill 'GZ' = ABN Refused to sign 'GZ' = ABN Unsigned
OBR-50		CC Locations		
...				
OBR-55		Billing Status		
OBR-56		Pass thru field		

OBR-57		Pass thru field		
OBR-58		Pass thru field		
OBR-59		Pass thru field		

Example OBR:

```
OBR|1|0000012674|123456^req#1234|LIPIDP^LIPanel|||200004191107|||
16693^RIVERS^CLINTON^C|||20001207132100|Serum|E91570^CASTELLONE^DAVID^MD|
|||||F||1^^^^^S|||||
```

OBX – Observation/Result

Seg/Field	HL7 Name	Orchard Name	Length	Orchard Comments
OBX-1	Set ID	Sequence number		
OBX-2	Value type		2	'NM'=numeric, 'ST'=text, 'ED'=embedded
OBX-3.1	Observation Identifier	Host code	80	
OBX-3.2	Observation Text	Lab test name	30	
OBX-3.3	Observation Name of Coding System	Lab name		
OBX-3.4	Observation Alternate Identifier	LOINC code		
OBX-3.5	Observation Alternate Text	LOINC description		
OBX-3.6	Observation Alternate Name of Coding System	LOINC coding system		'LN'
OBX-4	Observation Sub-ID			
OBX-5.1	Observation Value	Observation value		Test result. When embedded PDF result is sent will be 'pdf'.
OBX-5.2				When embedded PDF result is sent will be 'Base64'.
OBX-5.3				When embedded PDF result is sent will be the encoded PDF.
OBX-6	Units	Test units		
OBX-7	References range	Test range		
OBX-8	Abnormal Flags	Abnormal flags	2	
OBX-9	Probability			
OBX-10	Nature of Abnormal Test			
OBX-11	Observation Result Status	Result Status	3	'P'=Preliminary 'F'=Final 'C'=Corrected
OBX-12	Date Last Obs Normal Values			

OBX-13	User Defined Access Checks			
OBX-14	Date/Time of the Observation	Run date/time		YYYYMMDDHHMMSS
OBX-15.1	Producer's Identifier	Test location host code	80	
OBX-16.1	Responsible Observer host code	Approving tech host code		
OBX-16.2	Responsible Observer Last	Approving tech last name		
OBX-16.3	Responsible Observer First	Approving tech first name		
OBX-16.4	Responsible Observer Middle Initial	Approving tech middle initial		

Example OBX:

OBX|1|NM|LOI-0804-5^rWBC||2.7|K/uL|3.6-10.0|LL|||F|||20001207131015||LO

Terms and Definitions

The following terms and definitions are used within the Orchard LIS application and the supporting HL7 interface:

Lab Order:	A request for a procedure that may consist of one or more order choices, ORC.
Lab Order Choice:	A request for a procedure that may consist of one or more tests, OBR.
Lab Test:	A singular observation, OBX.
Primary Care Provider:	The patient 'family' physician (to be received in PD1-4).
Segment:	The components of a message identified as: MSH, EVN, PID, PV1, PD1, DG1, IN1, etc.