

SecureFlow Pro™ HL7 Specifications

SIU, MDM and ACK Message Types

| | |
|-------------------------|-----------|
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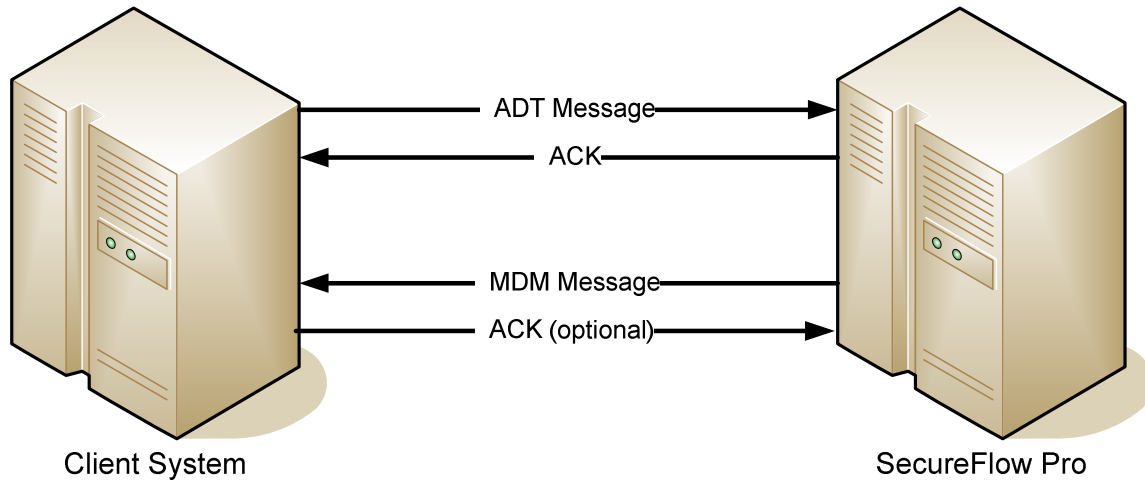
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Response Paradigms

The following response paradigms relate to the communication between external HL7 systems and the Remote Operations SecureFlow Pro™ system.

SIU messages are sent by the client system to the SecureFlow Pro system while MDM messages containing the finished transcriptions are sent back to the client system.



Scheduling Information Unsolicited Message (SIU)

Messages Supported by SecureFlow Pro™

The following messages are supported by the SecureFlow Pro system. They are not individually addressed in the following specification.

- SIU S12 – new patient appointment

Remote Operations requires messages that are triggered by the necessary events listed above. The HL7 Scheduling Information Unsolicited Message (SIU) should contain the following information.

Note: Segments must be terminated by 0x0D. This cannot change as specified by the HL7 specification.

| Use Identifier | Description |
|----------------|-------------|
| O | Optional |
| R | Required |
| U | Unused |

Message Header (MSH)

| Pos | Element | Length | Use | Example |
|-----|----------------------------|--------|-----|---|
| 1 | Field Separator | 1 | R | Pipe symbol - |
| 2 | Encoding Characters | 4 | R | ^~\& |
| | 1. Component | 1 | R | ^ |
| | 2. Repeat | 1 | R | ~ |
| | 3. Escape | 1 | R | \ |
| | 4. Subcomponent | 1 | R | & |
| 3 | Sending Application Name | 180 | R | <i>EMRDirect</i> |
| 4 | Sending Facility Name | 180 | R | <i>NewCo</i> |
| 5 | Receiving Application | 180 | U | |
| 6 | Receiving Facility | 180 | U | |
| 7 | Date and Time of Message | 26 | R | YYYYMMDDhhmmss <i>20041231021425</i> |
| 8 | Security | 40 | U | |
| 9 | Message Type | 7 | R | <i>SIUS12</i> |
| | 1. Message Type | 3 | R | SIU |
| | 2. Trigger Event | 3 | R | S12 |
| 10 | Message Control Identifier | 20 | R | <i>71200517353359</i> |
| 11 | Processing ID | 3 | O | Defaults to Production |
| | 1. Processing Identifier | 1 | | P = Production |
| | 2. Separator (^) | 1 | | T = Training |
| | 3. Processing Mode | 1 | | D = Debugging |
| | | | | A = Archive |
| | | | | R = Restore from archive |
| | | | | I = Initial load |
| | | | | [empty] = Not present |
| 12 | HL7 Version | 8 | R | 2.2, 2.3, etc. |

| | | | | Must be 2.2 or later |
|----|----------------------------------|-----|---|---|
| 13 | Sequence Number | 15 | U | A non-null value in this field implies that the sequence number protocol is in use. This numeric field is incremented by one for each subsequent value. |
| 14 | Continuation Pointer | 180 | U | This field is used to define continuations in application-specific ways. |
| 15 | Accept Acknowledgement Type | 2 | U | AL = Always NE = Never ER = Erroneous conditions SU = Successfully completion |
| 16 | Application Acknowledgement Type | 2 | U | AL = Always NE = Never ER = Erroneous conditions SU = Successfully completion |
| 17 | Country Code | 2 | U | ISO 3166 provides a list of country codes |
| 18 | Character Set | 6 | U | Alternate character sets not used. |
| 19 | Principle Language of Message | 60 | U | ISO 639 provides a list of codes |

Schedule Activity Information (SCH) Segment

| Pos | Element | Length | Use | Example |
|-----|---|--------|-----|--|
| 1 | Placer Appointment ID | 3 | U | This field has been retained for backward compatibility only. We recommend using the second component (trigger event) of MSH-9-message type to transmit event type code information. |
| 7 | Appointment Reason | 26 | O | |
| 11 | Date and Time of Planned Appointment (Start and Stop) | 26 | R | YYYYMMDDhhmmss^ YYYYMMDDhhmmss 20041231021425 |

Patient Identifier (PID) Segment

| Pos | Element | Length | Use | Example |
|-----|--|--------|-----|----------------------------------|
| 1 | Set ID (Patient ID) | 4 | U | |
| 2 | Patient ID – External ID | 20 | R | 123456 |
| 3 | Patient ID – Internal ID | 20 | U | |
| 4 | Alternate Patient ID | 20 | U | |
| 5 | Patient Name 1. Last Name 2. First Name 3. Middle Initial 4. Suffix 5. Prefix | 48 | R | Smith^John^C^Rev^III |
| 6 | Mother's Maiden Name | 48 | U | |
| 7 | Date and Time of Birth | 26 | O | YYYYMMDDhhmmss 19730704063200 |
| 8 | Sex | 1 | O | 00111 |
| 9 | Patient Alias 1. Last Name 2. First Name 3. Middle Initial 4. Suffix | 48 | U | |

| | | | | |
|----|--|-----|---|---|
| | 5. Prefix | | | |
| 10 | Race | 1 | U | |
| 11 | Patient Address 1. Address Line 1 2. Address Line 2 3. City 4. State 5. Postal Code 6. Country | 106 | O | 4708 Indian Paint^^Example^Texas^77777 |
| 12 | County Code | 12 | U | |
| 13 | Phone Number – Home | 40 | U | NPANXXXXXX |
| 14 | Phone Number – Business | 40 | U | NPANXXXXXX |
| 15 | Primary Language | 60 | U | |
| 16 | Marital Status | 1 | U | |
| 17 | Religion | 3 | U | |
| 18 | Patient Account Number | 20 | R | ETH0809 |
| 19 | Social Security Number | 16 | U | |
| 20 | Driver's License Number | 25 | U | |
| 21 | Mother's Identifier | 21 | U | |
| 22 | Ethnic Group | 3 | U | |
| 23 | Birth Place | 60 | U | |
| 24 | Multiple Birth Indicator | 2 | U | |
| 25 | Birth Order | 2 | U | |
| 26 | Citizenship | 4 | U | |
| 27 | Veteran's Military Status | 60 | U | |
| 28 | Nationality | 80 | U | |
| 29 | Patient Death and Time | 26 | U | |
| 30 | Patient Death Indicator | 1 | U | |

Patient Visit 1 (PV1) Segment

| Pos | Element | Length | Use | Example |
|-----|--|--------|-----|---|
| 1 | Set ID PV1 | 4 | U | |
| 2 | Patient Class | 1 | O | E = Emergency I = Inpatient O = Outpatient P = Preadmit R = Recurring Patient B = Obstetrics |
| 3 | Assigned Patient Location | 80 | U | |
| 4 | Admission Type | 2 | O | A = Accident E = Emergency L = Labor and Delivery R = Routine |
| 5 | Preadmit Number | 20 | O | |
| 6 | Prior Patient Location | 80 | U | |
| 7 | Attending Doctor 1. Last Name 2. First Name 3. Middle Initial | 60 | O | Smith^John^C |
| 8 | Referring Doctor 1. Last Name 2. First Name | 60 | O | Smith^John^C |

| | | | | |
|----|---|----|---|--------------|
| | 3. Middle Initial | | | |
| 9 | Consulting Doctor 1. Last Name 2. First Name 3. Middle Initial | 60 | O | Smith^John^C |
| 10 | Hospital Service | 3 | U | |
| 11 | Temporary Location | 80 | U | |
| 12 | Pre-admit Test Indicator | 2 | U | |
| 13 | Re-admission Indicator | 2 | U | |
| 14 | Admit Source | 3 | U | |
| 15 | Ambulatory Status | 2 | U | |
| 16 | VIP Indicator | 2 | U | |
| 17 | Admitting Doctor | 60 | U | |
| 18 | Patient Type | 2 | U | |
| 19 | Visit Number | 20 | U | |
| 20 | Financial Class | 50 | U | |
| 21 | Charge Price Indicator | 2 | U | |
| 22 | Courtesy Code | 2 | U | |
| 23 | Credit Rating | 2 | U | |
| 24 | Contract Code | 2 | U | |
| 25 | Contract Effective Date | 8 | U | |
| 26 | Contract Amount | 12 | U | |
| 27 | Contract Period | 3 | U | |
| 28 | Interest Code | 2 | U | |
| 29 | Transfer to Bad Debt Code | 1 | U | |
| 30 | Transfer to Bad Debt Date | 8 | U | |
| 31 | Bad Debt Agency Code | 10 | U | |
| 32 | Bad Debt Transfer Amount | 12 | U | |
| 33 | Bad Debt Recovery Amount | 12 | U | |
| 34 | Delete Account Indicator | 1 | U | |
| 35 | Delete Account Date | 8 | U | |
| 36 | Discharge Disposition | 3 | U | |
| 37 | Discharged to Location | 25 | U | |
| 38 | Diet Type | 2 | U | |
| 39 | Servicing Facility | 2 | U | |
| 40 | Bed Status | 1 | U | |
| 41 | Account Status | 2 | U | |
| 42 | Pending Location | 80 | U | |
| 43 | Prior Temporary Location | 80 | U | |
| 44 | Admit Date and Time | 26 | U | |
| 45 | Discharge Date and Time | 26 | U | |
| 46 | Current Patient Balance | 12 | U | |
| 47 | Total Charges | 12 | U | |
| 48 | Total Adjustments | 12 | U | |
| 49 | Total Payments | 12 | U | |
| 50 | Alternative Visit ID | 20 | U | |
| 51 | Visit Indicator | 1 | U | |
| 52 | Other Healthcare Provider | 60 | U | |

Example SIU Message

The following is an example SIU message.

```
MSH|^~&|REG|XYZ|XYZ|20050912110538||SIU^S12|4676115|P|2.3|
EVN|A04|20050912110538||VKP PID||353966||SMITH^JOHN^^^|19820707|F||C|108 MAIN
STREET ^^ANYTOWN^TX^77777^^|HARV|(512)555-0170||00362103|123-45-6789|||||
SCH|1||||NEW||||20050912110230^20050912110430|||||||^^^|3|
PV1||O|SEROT|3||1284^JOHNSON^MIKE^S.^MD~||SEROT||1||1284^JOHNSON^MIKE^S.^
MD|SERIES|787672|B|||||N|||||A||20050912110230|||| PV2||HAND BRACE NEEDS
REPAIRED|||||20050912|||||A|20050725|||O||||
```

Acknowledgements (ACK) for SIU

The Remote Operations system sends acknowledgement (ACK) messages to all SIU messages. The structure of the ACK is as follows:

Message Header (MSH)

| Pos | Element | Length | Use | Example |
|-----|----------------------------------|--------|-----|---|
| 1 | Field Separator | 1 | R | Pipe symbol - |
| 2 | Encoding Characters | 4 | R | ^~\& |
| | 1. Component | 1 | R | ^ |
| | 2. Repeat | 1 | R | ~ |
| | 3. Escape | 1 | R | \ |
| | 4. Subcomponent | 1 | R | & |
| 3 | Sending Application Name | 180 | R | <i>SFConnect</i> |
| 4 | Sending Facility Name | 180 | R | <i>Remote Operations, Inc.</i> |
| 5 | Receiving Application | 180 | U | |
| 6 | Receiving Facility | 180 | U | |
| 7 | Date and Time of Message | 26 | R | YYYYMMDDhhmmss 20030226000000 |
| 8 | Security | 40 | U | |
| 9 | Message Type | 7 | R | ACK |
| 10 | Message Control Identifier | 20 | R | 6162003124232500 |
| 11 | Processing ID | 3 | O | Defaults to Production P = Production T = Training D = Debugging A = Archive R = Restore from archive I = Initial load [empty] = Not present |
| 12 | HL7 Version | 8 | R | 2.2, 2.3, etc. Must be 2.2 or later |
| 13 | Sequence Number | 15 | U | A non-null value in this field implies that the sequence number protocol is in use. This numeric field is incremented by one for each subsequent value. |
| 14 | Continuation Pointer | 180 | U | This field is used to define continuations in application-specific ways. |
| 15 | Accept Acknowledgement Type | 2 | U | AL = Always NE = Never ER = Erroneous conditions SU = Successfully completion |
| 16 | Application Acknowledgement Type | 2 | U | AL = Always NE = Never ER = Erroneous conditions SU = Successfully completion |
| 17 | Country Code | 2 | U | ISO 3166 provides a list of country codes |
| 18 | Character Set | 6 | U | Alternate character sets not used. |
| 19 | Principle Language of Message | 60 | U | ISO 639 provides a list of codes |

Message Acknowledgement (MSA) Segment

| Pos | Element | Length | Use | Example |
|-----|------------------------------|--------|-----|----------------------------|
| 1 | Acknowledgement Code | 2 | R | AA = Success AE = Error |
| 2 | Message Control ID | 20 | R | 20030226000000 |
| 3 | Text Message | 80 | O | Success, or Failure |
| 4 | Expected Sequence Number | 15 | U | |
| 5 | Delayed Acknowledgement Type | 1 | U | |
| 6 | Error Condition | 100 | O | |

Example ACK Message

The following is an example success ACK message.

```
MSH|^~\&|SFConnect|SecureFlow Pro||  
20030226000000||ACK|6162003124232500|P|2.3|||||MSA|AA|20030226000000|Success|||
```

The following is an example failure ACK message.

```
MSH|^~\&|SFConnect|SecureFlow Pro ||  
20030226000000||ACK|6162003124232500|P|2.3|||||MSA|AE|20030226000000|Failure|||
```

Medical Document Management (MDM) Messages

Remote Operations returns finished transcriptions to the client using Medical Document Management (MDM) messages that are triggered by the *Transcription Completion* event in the SecureFlow Pro system. The HL7 message will contain the following information.

Note: Segments must be terminated by 0x0D. This cannot change as specified by the HL7 specification.

| Use Identifier | Description |
|----------------|-------------|
| O | Optional |
| R | Required |
| U | Unused |

Message Header (MSH)

| Pos | Element | Length | Use | Example |
|-----|----------------------------|--------|-----|---|
| 1 | Field Separator | 1 | R | Pipe symbol - |
| 2 | Encoding Characters | 4 | R | ^~\& |
| | 5. Component | 1 | R | ^ |
| | 6. Repeat | 1 | R | ~ |
| | 7. Escape | 1 | R | \ |
| | 8. Subcomponent | 1 | R | & |
| 3 | Sending Application Name | 180 | R | <i>EMRDirect</i> |
| 4 | Sending Facility Name | 180 | R | <i>NewCo</i> |
| 5 | Receiving Application | 180 | U | |
| 6 | Receiving Facility | 180 | U | |
| 7 | Date and Time of Message | 26 | R | YYYYMMDDhhmmss <i>20041231021425</i> |
| 8 | Security | 40 | U | |
| 9 | Message Type | 7 | R | <i>ORM01</i> |
| | 3. Message Type | 3 | R | ORM |
| | 4. Trigger Event | 3 | R | 01 |
| 10 | Message Control Identifier | 20 | R | <i>71200517353359</i> |
| 11 | Processing ID | 3 | O | Defaults to Production P = Production T = Training D = Debugging A = Archive R = Restore from archive I = Initial load [empty] = Not present |
| | 7. Processing Identifier | 1 | | |
| | 8. Separator (^) | 1 | | |
| | 9. Processing Mode | 1 | | |
| 12 | HL7 Version | 8 | R | 2.2, 2.3, etc. Must be 2.2 or later |
| 13 | Sequence Number | 15 | U | A non-null value in this field implies that the sequence number protocol is in use. This numeric field is incremented by one for each subsequent value. |
| 14 | Continuation Pointer | 180 | U | This field is used to define continuations in application-specific ways. |

| | | | | |
|----|----------------------------------|----|---|--|
| 15 | Accept Acknowledgement Type | 2 | U | AL = Always NE = Never ER = Erroneous conditions SU = Successfully completion |
| 16 | Application Acknowledgement Type | 2 | U | AL = Always NE = Never ER = Erroneous conditions SU = Successfully completion |
| 17 | Country Code | 2 | U | ISO 3166 provides a list of country codes |
| 18 | Character Set | 6 | U | Alternate character sets not used. |
| 19 | Principle Language of Message | 60 | U | ISO 639 provides a list of codes |

Event Type (EVN) Segment

| Pos | Element | Length | Use | Example |
|-----|--------------------------------|--------|-----|--|
| 1 | Event Type Code | 3 | R | This field has been retained for backward compatibility only. We recommend using the second component (trigger event) of MSH-9-message type to transmit event type code information. |
| 2 | Recorded Date and Time | 26 | R | |
| 3 | Date and Time of Planned Event | 26 | U | |
| 4 | Event Reason Code | 3 | U | |
| 5 | Operator ID | 60 | U | |
| 6 | Event Occurred | 26 | U | |

Patient Identifier (PID) Segment

| Pos | Element | Length | Use | Example |
|-----|--|--------|-----|---|
| 1 | Set ID (Patient ID) | 4 | U | |
| 2 | Patient ID – External ID | 20 | R | 123456 |
| 3 | Patient ID – Internal ID | 20 | U | |
| 4 | Alternate Patient ID | 20 | U | |
| 5 | Patient Name 6. Last Name 7. First Name 8. Middle Initial 9. Suffix 10. Prefix | 48 | R | Smith^John^C^Rev^III |
| 6 | Mother's Maiden Name | 48 | U | |
| 7 | Date and Time of Birth | 26 | O | YYYYMMDDhhmmss 19730704063200 |
| 8 | Sex | 1 | O | 00111 |
| 9 | Patient Alias 6. Last Name 7. First Name 8. Middle Initial 9. Suffix 10. Prefix | 48 | U | |
| 10 | Race | 1 | U | |
| 11 | Patient Address 7. Address Line 1 8. Address Line 2 9. City | 106 | O | 4708 Indian Paint^^Example^Texas^77777 |

| | | | | |
|----|---|----|---|------------|
| | 10. State 11. Postal Code 12. Country | | | |
| 12 | County Code | 12 | U | |
| 13 | Phone Number – Home | 40 | U | NPANXXXXXX |
| 14 | Phone Number – Business | 40 | U | NPANXXXXXX |
| 15 | Primary Language | 60 | U | |
| 16 | Marital Status | 1 | U | |
| 17 | Religion | 3 | U | |
| 18 | Patient Account Number | 20 | R | ETH0809 |
| 19 | Social Security Number | 16 | U | |
| 20 | Driver's License Number | 25 | U | |
| 21 | Mother's Identifier | 21 | U | |
| 22 | Ethnic Group | 3 | U | |
| 23 | Birth Place | 60 | U | |
| 24 | Multiple Birth Indicator | 2 | U | |
| 25 | Birth Order | 2 | U | |
| 26 | Citizenship | 4 | U | |
| 27 | Veteran's Military Status | 60 | U | |
| 28 | Nationality | 80 | U | |
| 29 | Patient Death and Time | 26 | U | |
| 30 | Patient Death Indicator | 1 | U | |

Patient Visit 1 (PV1) Segment

| Pos | Element | Length | Use | Example |
|-----|---|--------|-----|---|
| 1 | Set ID PV1 | 4 | U | |
| 2 | Patient Class | 1 | O | E = Emergency I = Inpatient O = Outpatient P = Preadmit R = Recurring Patient B = Obstetrics |
| 3 | Assigned Patient Location | 80 | U | |
| 4 | Admission Type | 2 | O | A = Accident E = Emergency L = Labor and Delivery R = Routine |
| 5 | Preadmit Number | 20 | O | |
| 6 | Prior Patient Location | 80 | U | |
| 7 | Attending Doctor 4. Last Name 5. First Name 6. Middle Initial | 60 | O | Smith^John^C |
| 8 | Referring Doctor 4. Last Name 5. First Name 6. Middle Initial | 60 | O | Smith^John^C |
| 9 | Consulting Doctor 4. Last Name 5. First Name 6. Middle Initial | 60 | O | Smith^John^C |

| | | | | |
|----|---------------------------|----|---|--|
| 10 | Hospital Service | 3 | U | |
| 11 | Temporary Location | 80 | U | |
| 12 | Pre-admit Test Indicator | 2 | U | |
| 13 | Re-admission Indicator | 2 | U | |
| 14 | Admit Source | 3 | U | |
| 15 | Ambulatory Status | 2 | U | |
| 16 | VIP Indicator | 2 | U | |
| 17 | Admitting Doctor | 60 | U | |
| 18 | Patient Type | 2 | U | |
| 19 | Visit Number | 20 | U | |
| 20 | Financial Class | 50 | U | |
| 21 | Charge Price Indicator | 2 | U | |
| 22 | Courtesy Code | 2 | U | |
| 23 | Credit Rating | 2 | U | |
| 24 | Contract Code | 2 | U | |
| 25 | Contract Effective Date | 8 | U | |
| 26 | Contract Amount | 12 | U | |
| 27 | Contract Period | 3 | U | |
| 28 | Interest Code | 2 | U | |
| 29 | Transfer to Bad Debt Code | 1 | U | |
| 30 | Transfer to Bad Debt Date | 8 | U | |
| 31 | Bad Debt Agency Code | 10 | U | |
| 32 | Bad Debt Transfer Amount | 12 | U | |
| 33 | Bad Debt Recovery Amount | 12 | U | |
| 34 | Delete Account Indicator | 1 | U | |
| 35 | Delete Account Date | 8 | U | |
| 36 | Discharge Disposition | 3 | U | |
| 37 | Discharged to Location | 25 | U | |
| 38 | Diet Type | 2 | U | |
| 39 | Servicing Facility | 2 | U | |
| 40 | Bed Status | 1 | U | |
| 41 | Account Status | 2 | U | |
| 42 | Pending Location | 80 | U | |
| 43 | Prior Temporary Location | 80 | U | |
| 44 | Admit Date and Time | 26 | U | |
| 45 | Discharge Date and Time | 26 | U | |
| 46 | Current Patient Balance | 12 | U | |
| 47 | Total Charges | 12 | U | |
| 48 | Total Adjustments | 12 | U | |
| 49 | Total Payments | 12 | U | |
| 50 | Alternative Visit ID | 20 | U | |
| 51 | Visit Indicator | 1 | U | |
| 52 | Other Healthcare Provider | 60 | U | |

Transcription Document Header (TXA) Segment

| Pos | Element | Length | Use | Example |
|-----|-------------------------------|--------|-----|----------------------------------|
| 1 | Set ID – TXA | 4 | R | |
| 2 | Document Type | 30 | R | Work type selected by the doctor |
| 3 | Document Content Presentation | 2 | R | <i>FT = Formatted Text</i> |
| 4 | Activity Time and Date | 26 | R | YYYYMMDDhhmmss |

| | | | | |
|----|-------------------------------------|-----|---|--|
| 5 | Primary Activity Provider Code/Name | 60 | R | |
| 6 | Origination Date and Time | 26 | R | YYYYMMDDhhmmss |
| 7 | Transcription Date and Time | 26 | R | YYYYMMDDhhmmss |
| 8 | Edit Date and Time | 26 | R | YYYYMMDDhhmmss |
| 9 | Originator Code/Name | 60 | R | |
| 10 | Assigned Document Authenticator | 60 | O | |
| 11 | Transcriptionist Code/Name | 48 | R | Selected by client |
| 12 | Unique Document Number | 30 | R | Globally Unique Identifier |
| 13 | Parent Document Number | 30 | U | |
| 14 | Placer Order Number | 22 | U | |
| 15 | Filler Order Number | 22 | U | |
| 16 | Unique Document File Name | 30 | U | |
| 17 | Document Completion Status | 2 | R | PA = Pre-authenticated (preliminary) AU = Authenticated (final) LA = Legally Authenticated (final that has been digitally signed) |
| 18 | Document Confidentiality Status | 2 | R | U = Usual Control |
| 19 | Document Availability Status | 2 | R | AV = Available for patient care |
| 20 | Document Storage Status | 2 | R | AC = Active |
| 21 | Document Change Reason | 30 | U | |
| 22 | Authentication Person Time Stamp | 60 | U | |
| 23 | Distributed Copies Code and Name | 512 | O | This does not adhere to the 60 character limit set by the HL7 Organization due to possibility of having more doctors than can fit in the 60 character limit. |

Observation Result (OBX) Segment

| Pos | Element | Length | Use | Example |
|-----|---------------------------|--------|-----|--|
| 1 | Set ID (OBX) | 10 | R | 1, 2, 3, ... |
| 2 | Value Type | 2 | R | AD = Address DT Date ED Encapsulated Data FT Formatted Text (Display) ST String Data. TM Time TN Telephone Number TS Time Stamp (Date & Time) TX Text Data (Display) |
| 3 | Observation Identifier | 590 | R | EX00569 |
| 4 | Observation Sub-ID | 20 | U | |
| 5 | Observation Value | 65536 | O | Report section text. |
| 6 | Units | 60 | U | |
| 7 | References Range | 10 | U | |
| 8 | Abnormal Flags | 5 | U | |
| 9 | Probability | 5 | U | |
| 10 | Nature of Abnormal Test | 2 | U | |
| 11 | Observation Result Status | 2 | U | |
| 12 | Date of Last Observation | 26 | U | |

| | Normal Values | | | |
|----|----------------------------------|----|---|--|
| 13 | User-Defined Access Checks | 20 | U | |
| 14 | Date and Time of the Observation | 26 | R | |
| 15 | Producer's ID | 60 | U | |
| 16 | Responsible Observer | 80 | U | |
| 17 | Observation Method | 60 | U | |

Example MDM Message

The following is an example MDM message.

```
MSH|^~&|SFCConnect|SecureFlow Pro|XYZ||20050918000000||MDM^T04|{6AF4DC6C-5BF1-4563-8EBD-F54B880B3613}|P|2.3||||| EVN|T04|20050918000000
PID|1||355281||SMITH^JOHN|||||||00360397|||||||
PV1|1|O|NMC|||||||20050918|||||
TXA|1|06|FT||1095|20050916|20050918||1095^JOHNSON^JOHN|1095|MJS|9528|||||LA|U|AV|AC
||1095^JOHNSON^JOHN^^DO~ OBX|1|TX|00360397|1|PATIENT NAME:|||||||200509180000||
OBX|2|TX|00360397|1|SMITH, JOHN E.|||||||200509180000||
OBX|3|TX|00360397|1|||||||200509180000|| OBX|4|TX|00360397|1|ACCT.
NUMBER:|||||||200509180000|| OBX|5|TX|00360397|1|00360397|||||||200509180000||
OBX|6|TX|00360397|1|||||||200509180000||
OBX|7|TX|00360397|1|DATE:|||||||200509180000||
OBX|8|TX|00360397|1|9/16/05|||||||200509180000||
OBX|9|TX|00360397|1|||||||200509180000||
OBX|10|TX|00360397|1|DOCTOR:|||||||200509180000|| OBX|11|TX|00360397|1|Charles
Graber|||||||200509180000|| OBX|12|TX|00360397|1|||||||200509180000||
OBX|13|TX|00360397|1|TYPE OF PROCEDURE:|||||||200509180000||
OBX|14|TX|00360397|1|CHEST, PORTABLE|||||||200509180000||
OBX|15|TX|00360397|1|||||||200509180000|| OBX|16|TX|00360397|1|||||||200509180000||
OBX|17|TX|00360397|1|SYMPTOMS OR REASON FOR PROCEDURE:|||||||200509180000||
OBX|18|TX|00360397|1|CHEST TUBES|||||||200509180000||
OBX|19|TX|00360397|1|||||||200509180000|| OBX|20|TX|00360397|1|One film was presented
for interpretation and reveals a chest tube|||||||200509180000|| OBX|21|TX|00360397|1|with the
tip at the right hilus. There is noted to be a lack of|||||||200509180000||
OBX|22|TX|00360397|1|expansion toward the right apex with approximately 20-25% lack
of|||||||200509180000|| OBX|23|TX|00360397|1|expansion of the right lung. Evidence of recent
surgery is noted|||||||200509180000|| OBX|24|TX|00360397|1|with multiple skin staples seen
overlying the mid to lower thorax.|||||||200509180000|| OBX|25|TX|00360397|1|The left lung field
appears to be generally clear. There is some|||||||200509180000||
OBX|26|TX|00360397|1|haziness toward the left base but not much different when compared
to|||||||200509180000|| OBX|27|TX|00360397|1|the prior examination.|||||||200509180000||
OBX|28|TX|00360397|1|||||||200509180000||
OBX|29|TX|00360397|1|IMPRESSION/ASSESSMENT:|||||||200509180000||
OBX|30|TX|00360397|1|1. Lack of expansion of the right apex as above described
with|||||||200509180000|| OBX|31|TX|00360397|1|approximately 20-25% pneumothorax
persisting.|||||||200509180000|| OBX|32|TX|00360397|1|2. Right chest tube is now seen with the
tip at the level of the|||||||200509180000|| OBX|33|TX|00360397|1|right
hilus.|||||||200509180000|| OBX|34|TX|00360397|1|||||||200509180000||
OBX|35|TX|00360397|1|DIGITAL SIGNATURE:|||||||200509180000||
OBX|36|TX|00360397|1|DIGITAL SIGNATURE HERE IF REAL|||||||200509180000||
OBX|37|TX|00360397|1|||||||200509180000|| OBX|38|TX|00360397|1|||||||200509180000||
OBX|39|TX|00360397|1|EB1151C7D915C1452F1E8FF274AD55|||||||200509180000||
OBX|40|TX|00360397|1|File: JJOHNSON-Radiology-123456.wav|||||||200509180000||
```

REMOTE OPERATIONS™

OBX|41|TX|00360397|1|By: JOHN JOHNSON|||||||200509180000|||
OBX|42|TX|00360397|1|Location: 299.188.444.626|||||||200509180000|||
OBX|43|TX|00360397|1|Date: 9/18/2005 10:18:29 AM|||||||200509180000|||
OBX|44|TX|00360397|1|||||||200509180000|||

Acknowledgements (ACK) for MDM

The Remote Operations system sends acknowledgement (ACK) messages to all MDM messages. The structure of the ACK is as follows:

Message Header (MSH)

| Pos | Element | Length | Use | Example |
|-----|----------------------------------|--------|-----|---|
| 1 | Field Separator | 1 | R | Pipe symbol - |
| 2 | Encoding Characters | 4 | R | ^~\& |
| | 5. Component | 1 | R | ^ |
| | 6. Repeat | 1 | R | ~ |
| | 7. Escape | 1 | R | \ |
| | 8. Subcomponent | 1 | R | & |
| 3 | Sending Application Name | 180 | R | Client Vendor Application Name |
| 4 | Sending Facility Name | 180 | R | Client Facility Name |
| 5 | Receiving Application | 180 | U | |
| 6 | Receiving Facility | 180 | U | |
| 7 | Date and Time of Message | 26 | R | YYYYMMDDhhmmss 20030226000000 |
| 8 | Security | 40 | U | |
| 9 | Message Type | 7 | R | ACK |
| 10 | Message Control Identifier | 20 | R | 6162003124232500 |
| 11 | Processing ID | 3 | O | Defaults to Production P = Production T = Training D = Debugging A = Archive R = Restore from archive I = Initial load [empty] = Not present |
| | 10. Processing Identifier | 1 | | |
| | 11. Separator (^) | 1 | | |
| | 12. Processing Mode | 1 | | |
| 12 | HL7 Version | 8 | R | 2.2, 2.3, etc. Must be 2.2 or later |
| 13 | Sequence Number | 15 | U | A non-null value in this field implies that the sequence number protocol is in use. This numeric field is incremented by one for each subsequent value. |
| 14 | Continuation Pointer | 180 | U | This field is used to define continuations in application-specific ways. |
| 15 | Accept Acknowledgement Type | 2 | U | AL = Always NE = Never ER = Erroneous conditions SU = Successfully completion |
| 16 | Application Acknowledgement Type | 2 | U | AL = Always NE = Never ER = Erroneous conditions SU = Successfully completion |
| 17 | Country Code | 2 | U | ISO 3166 provides a list of country codes |
| 18 | Character Set | 6 | U | Alternate character sets not used. |
| 19 | Principle Language of Message | 60 | U | ISO 639 provides a list of codes |

Message Acknowledgement (MSA) Segment

| Pos | Element | Length | Use | Example |
|-----|------------------------------|--------|-----|----------------------------|
| 1 | Acknowledgement Code | 2 | R | AA = Success AE = Error |
| 2 | Message Control ID | 20 | R | 20030226000000 |
| 3 | Text Message | 80 | O | Success, or Failure |
| 4 | Expected Sequence Number | 15 | U | |
| 5 | Delayed Acknowledgement Type | 1 | U | |
| 6 | Error Condition | 100 | O | |

Example ACK Message

The following is an example success ACK message for an ORU message.

```
MSH|^~\&|EMRDirect|Example Hospital|||
20030226000000||ACK|6162003124232500|P|2.3|||||||MSA|AA|20030226000000|Success||||
```

The following is an example failure ACK message for an ORU message.

```
MSH|^~\&|EMRDirect|Example Hospital|||
20030226000000||ACK|6162003124232500|P|2.3|||||||MSA|AE|20030226000000|Failure||||
```

Revision History

| Date | Version | Author | Notes |
|-------------|----------------|------------------|---------------|
| 7/12/2008 | 0.1 | Richard Bagdonas | Draft Version |
| 8/18/2008 | 1.0 | Richard Bagdonas | Final Version |