



ADT Interface Specification

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1 Introduction

1.1 Document Scope and Purpose

The purpose of this document is to provide a specification for the implementation of Foreign System ADT interface to Net Health Systems IHeal application utilizing the Net Health System's integration engine capabilities. The major sections of this document will provide the trigger events and fields that are accepted in the IHeal application

1.2 Document History

This table maintains and tracks all changes made to this specification.

Version	Status	Description	Date	Edited By
1.0	Initial	Initial Document	February 26, 2007	Chris Kohler
1.1	Final	Final Document	March 2, 2007	Chris Kohler
1.2	Updated	Update to accept PID:2 and acceptance of A05 message type	August 20, 2008	Chris Kohler
1.3	Updated	Added MRG segment information Added ADT^A40 message type as supported	July 28, 2014	Javier del Pino
1.4	Update	Added the GT1 segment information	October 30, 2014	Javier del Pino

1.3 Communications

This section provides an overall description of the connectivity protocol and the message envelope.

1.3.1 Lower Layer Protocol

IHeal supports the following lower layer protocol:

Minimal Lower Layer Protocol (MLLP): <SB>dddd<EB><CR>

The following table shows the protocol details:

Symbol	Name	Hex Code	Decimal Equivalent
<SB>	Start Block	<0x0B>	11
dddd	Application Data	(Variable number of bytes)	
<EB>	End Block	<0x1C>	28
<CR>	Carriage Return	<0x0D>	13

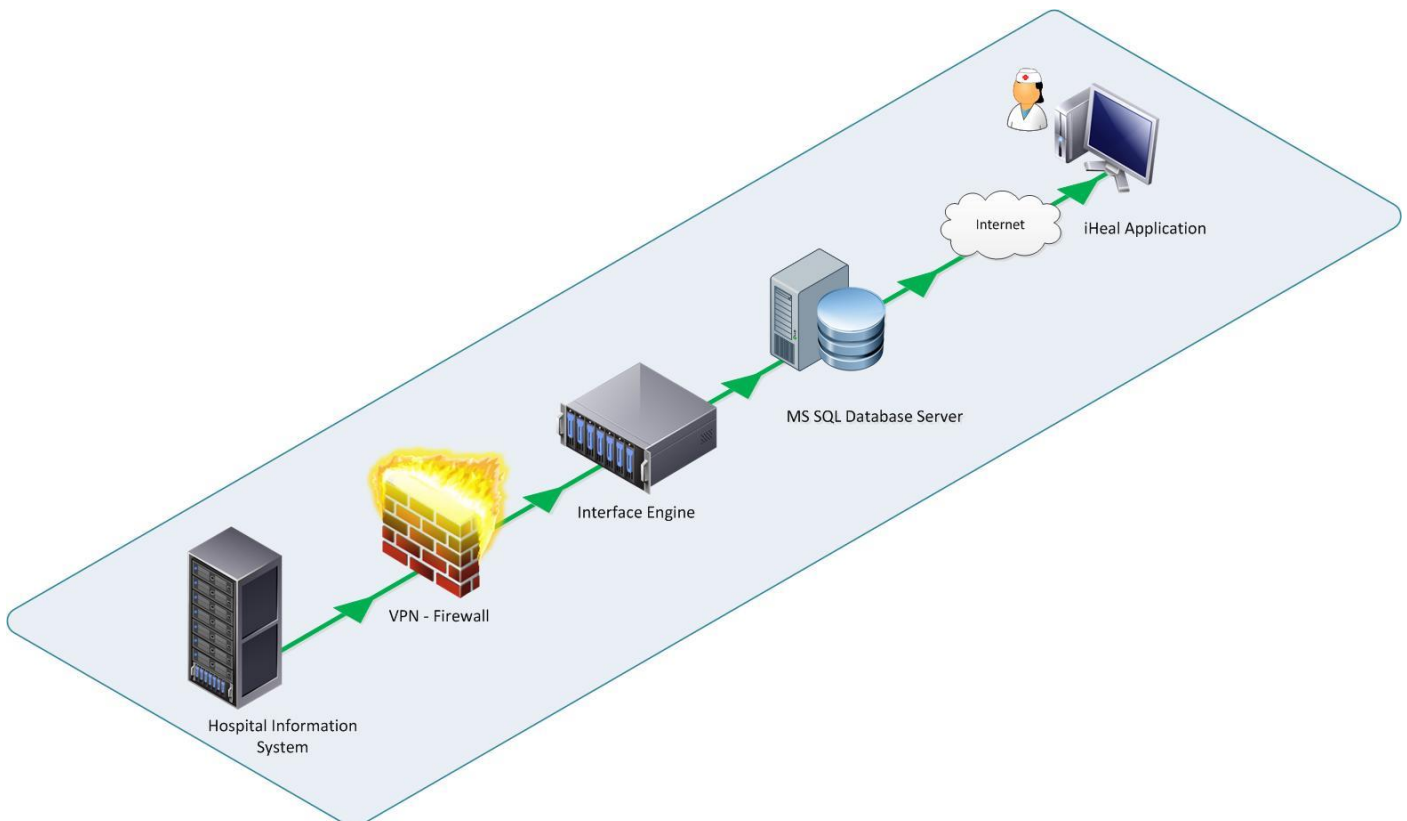
1.3.2 Acknowledgements

An HL7 Acknowledgment is sent by IHeal upon receipt of each message. The source application waits until receipt of the acknowledgment before sending the next message.

2 Implementation Strategy

2.1 Data Flow

This section describes the flow of data between the foreign system and IHeal's Interface Engine.



2.2 Trigger Events

The following tables list the HL7 Event types that are supported by IHeal.

2.2.1 Supported Event Codes:

Segment	Segment Name	A01	A03	A04	A05	A06	A07	A08	A11	A13	A18	A34	A40
MSH	Message Header	x	x	x	x	x	x	x	x	x	x	x	x
EVN	Event Type	x	x	x	x	x	x	x	x	x	x	x	x
PID	Patient Identification	x	x	x	x	x	x	x	x	x	x	x	x
[PD1]	Patient Demographic	x		x	x			x					
[NK1]	Next of Kin	x		x	x			x					
PV1	Patient Visit	x		x	x			x					
[[IN1]]	Insurance Information	x		x	x			x					
[MRG]	Merge Patient										x	x	x

[] = optional { } = may repeat

4 HL7 Segments Defined

4.1 MSH – Message Header Segment

This section defines the intent, source, destination, and some message syntax specifics. The table shows the entire segment, and a sample message follows the table.

SEQ	LEN	DT	OPT	ELEMENT NAME	FORMAT	NOTES*
1	1	ST	R	Field Separator		
2	4	ST	R	Encoding Characters	^~\&	
3	180	EI	O	Sending Application		
4	180	EI	O	Sending Facility		
5	180	EI	O	Receiving Application	IHeal	
6	180	EI	O	Receiving Facility		
7	26	TS	O	Date/Time Of Message	CCYYMMDDHHMMSS	
8	40	ST	O	Security		Not Processed
9	7	CM	R	Message Type	ADT^A04	
10	20	ST	R	Message Control ID		
11	3	PT	R	Processing ID		Not Processed
12	60	VID	R	Version ID		
13	15	NM	O	Sequence Number		Not Processed
14	180	ST	O	Continuation Pointer		Not Processed
15	2	ID	O	Accept Ack Type		Not Processed
16	2	ID	O	Application Ack Type		Not Processed

SEQ	LEN	DT	OPT	ELEMENT NAME	FORMAT	NOTES*
17	2	ID	O	Country Code		Not Processed
18	10	ID	O	Character Set		Not Processed
19	60	CE	O	Principle Lang Of Msg		Not Processed
20	20	ID	O	Alternate Char Set Handling Scheme		Not Processed

For example:

```
MSH|^~\&|IHeal|ORGANIZATION|||20070101120000||ADT^A04|001|P|2.4|
```

4.2 EVN – Event Type Segment

This segment communicates necessary trigger event information to the receiving application. The table shows the entire segment, and a sample message follows the table.

SEQ	LEN	DT	OPT	ELEMENT NAME	FORMAT	NOTES*
1	3	ID	R	Event Type Code	A04	
2	26	TS	R	Recorded Date/Time	CCYYMMDDHHMMSS	
3	26	TS	O	Date/Time Planned Event		Not Processed
4	3	IS	O	Event Reason Code		Not Processed
5	60	XCN	O	Operator ID		Not Processed
6	26	TS	O	Event Occurred		Not Processed

For example:

```
EVN|A04|20070101120000|
```

4.3 PID – Patient Identification Segment

This segment is the primary means for communicating patient identification information. This is permanent patient identifying and demographic information that is not likely to change frequently. The table shows the entire segment, and a sample message follows the table.

SEQ	LEN	DT	OPT	ELEMENT NAME	FORMAT	NOTES*
1	4	SI	O	Set ID – PID		
2	20	CX	B	Patient ID		Used to Process CMRN
3	20	CX	R	Patient Identifier List		Used to Process MRN
4	20	CX	B	Alternate Patient ID – PID		Not Processed
5	48	XPN	R	Patient Name		
6	48	XPN	O	Mother's Maiden Name		Not Processed
7	26	TS	O	Date/Time of Birth	CCYYMMDD	
8	1	IS	O	Sex		
9	48	XPN	O	Patient Alias		Not Processed
10	80	CE	O	Race		
11	106	XAD	O	Patient Address		
12	4	IS	B	County Code		

SEQ	LEN	DT	OPT	ELEMENT NAME	FORMAT	NOTES*
13	40	XTN	O	Phone Number - Home		
14	40	XTN	O	Phone Number - Bus		
15	60	CE	O	Primary Language		
16	80	CE	O	Marital Status		Not Processed
17	80	CE	O	Religion		
18	20	CX	O	Patient Account Number		
19	16	ST	B	SSN Number - Patient	999999999	
20	25	DLN	O	Driver's License # - Patient		Not Processed
21	20	CX	O	Mother's Identifier		Not Processed
22	80	CE	O	Ethnic Group		
23	60	ST	O	Birth Place		Not Processed
24	1	ID	O	Multiple Birth Indicator		Not Processed
25	2	NM	O	Birth Order		Not Processed
26	80	CE	O	Citizenship		Not Processed
27	60	CE	O	Veterans Military Status		Not Processed
28	80	CE	O	Nationality		Not Processed
29	26	TS	O	Patient Death Date and Time		Not Processed
30	1	ID	O	Patient Death Indicator		Not Processed

For example:

PID||123589|123456||WOUND^PATIENT^X^^^||19751116|F||4|40 24TH
STREET^^PITTSBURGH^PA^15222^|US|412555555|||0|123456|12345789||1|

4.4 PD1 – Patient Additional Demographic Segment

This table provides the additional patient demographic information that is likely to change. The table shows the entire segment, and a sample message follows the table.

SEQ	LEN	DT	OPT	ELEMENT NAME	FORMAT	NOTES*
1	2	IS	O	Living Dependency		Not Processed
2	2	IS	O	Living Arrangement		Not Processed
3	90	XON	O	Patient Primary Facility		
4	90	XCN	O	Patient Primary Care Provider Name & ID No.		
5	2	IS	O	Student Indicator		Not Processed
6	2	IS	O	Handicap		Not Processed
7	2	IS	O	Living Will		Not Processed
8	2	IS	O	Organ Donor		Not Processed
9	1	ID	O	Separate Bill		Not Processed
10	20	CX	O	Duplicate Patient		Not Processed
11	80	CE	O	Publicity Code		Not Processed
12	1	ID	O	Protection Indicator		Not Processed

For example:

PD1|||WOUND CLINIC|99999^PRIMARY^PHYSICIAN^|||Y|

4.5 NK1 – Next of Kin Segment

The Next of Kin Segment contains information about the patient's related parties and is used to identify emergency contact information for the patient.

SEQ	LEN	DT	OPT	ELEMENT NAME	FORMAT	NOTES*
1	4	SI	R	Set ID - NK1		
2	48	XPN	O	Name		
3	60	CE	O	Relationship		
4	106	XAD	O	Address		Not Processed
5	40	XTN	O	Phone Number		
6	40	XTN	O	Business Phone Number		Not Processed
7	60	CE	O	Contact Role		Not Processed
8	8	DT	O	Start Date		Not Processed
9	8	DT	O	End Date		Not Processed
10	60	ST	O	Next of Kin / Associated Parties Job Title		Not Processed
11	20	JCC	O	Next of Kin / Associated Parties Job Code/Class		Not Processed
12	20	CX	O	Next of Kin / Associated Parties Employee Number		Not Processed
13	90	XON	O	Organization Name - NK1		Not Processed
14	80	CE	O	Marital Status		Not Processed
15	1	IS	O	Sex		Not Processed
16	26	TS	O	Date/Time of Birth		Not Processed
17	2	IS	O	Living Dependency		Not Processed
18	2	IS	O	Ambulatory Status		Not Processed
19	80	CE	O	Citizenship		Not Processed
20	60	CE	O	Primary Language		Not Processed
21	2	IS	O	Living Arrangement		Not Processed
22	80	CE	O	Publicity Code		Not Processed
23	1	ID	O	Protection Indicator		Not Processed
24	2	IS	O	Student Indicator		Not Processed
25	80	CE	O	Religion		Not Processed
26	48	XPN	O	Mother's Maiden Name		Not Processed
27	80	CE	O	Nationality		Not Processed
28	80	CE	O	Ethnic Group		Not Processed
29	80	CE	O	Contact Reason		Not Processed
30	48	XPN	O	Contact Person's Name		Not Processed
31	40	XTN	O	Contact Person's Telephone Number		Not Processed
32	106	XAD	O	Contact Person's Address		Not Processed
33	32	CX	O	Next of Kin/Associated Party's Identifiers		Not Processed
34	2	IS	O	Job Status		Not Processed
35	80	CE	O	Race		Not Processed
36	2	IS	O	Handicap		Not Processed
37	16	ST	O	Contact Person Social Security Number		Not Processed

For example:

NK1|1|LASTNAME^FIRSTNAME|| (555) 444-
3333|

4.6 PV1 – Patient Visit Segment

Registration/Patient Administration applications use the PV1 segment to communicate information on a visit-specific basis. The table shows the entire segment, and a sample message follows the table.

SEQ	LEN	DT	OPT	ELEMENT NAME	FORMAT	NOTES*
1	4	SI	O	Set ID - PV1		
2	1	IS	R	Patient Class		
3.0	80	PL	O	Assigned Patient Location		Process only Unit
3.1				Unit		
3.2				Room		Not Processed
3.3				Bed		Not Processed
4	2	IS	O	Admission Type		Not Processed
5	20	CX	O	Preadmit Number		Not Processed
6	80	PL	O	Prior Patient Location		Not Processed
7	60	XCN	O	Attending Doctor		
8	60	XCN	O	Referring Doctor		
9	60	XCN	O	Consulting Doctor		Not Processed
10	3	IS	O	Hospital Service		Not Processed
11	80	PL	O	Temporary Location		Not Processed
12	2	IS	O	Preadmit Test Indicator		Not Processed
13	2	IS	O	Re-admission Indicator		Not Processed
14	3	IS	O	Admit Source		
15	2	IS	O	Ambulatory Status		Not Processed
16	2	IS	O	VIP Indicator		Not Processed
17	60	XCN	O	Admitting Doctor		Not Processed
18	2	IS	O	Patient Type		Not Processed
19	20	CX	O	Visit Number		Not Processed
20	50	FC	O	Financial Class		Not Processed
21	2	IS	O	Charge Price Indicator		Not Processed
22	2	IS	O	Courtesy Code		Not Processed
23	2	IS	O	Credit Rating		Not Processed
24	2	IS	O	Contract Code		Not Processed
25	8	DT	O	Contract Effective Date		Not Processed
26	12	NM	O	Contract Amount		Not Processed
27	3	NM	O	Contract Period		Not Processed
28	2	IS	O	Interest Code		Not Processed
29	1	IS	O	Trans to Bad Debt Code		Not Processed
30	8	DT	O	Trans to Bad Debt Date		Not Processed

SEQ	LEN	DT	OPT	ELEMENT NAME	FORMAT	NOTES*
31	10	IS	O	Bad Debt Agency Code		Not Processed
32	12	NM	O	Bad Debt Transfer Amount		Not Processed
33	12	NM	O	Bad Debt Recovery Amt		Not Processed
34	1	IS	O	Delete Account Indicator		Not Processed
35	8	DT	O	Delete Account Date		Not Processed
36	3	IS	O	Discharge Disposition		Not Processed
37	25	CM	O	Discharged to Location		Not Processed
38	80	CE	O	Diet Type		Not Processed
39	2	IS	O	Servicing Facility		Not Processed
40	1	IS	B	Bed Status		Not Processed
41	2	IS	O	Account Status		Not Processed
42	80	PL	O	Pending Location		Not Processed
43	80	PL	O	Prior Temp Location		Not Processed
44	26	TS	O	Admit Date/Time	CCYYMMDDHHMMSS	
45	26	TS	O	Discharge Date/Time	CCYYMMDDHHMMSS	*NOTE: Discharge Date must be provided on discharged accounts in order for the interface to know that it is an inactive account
46	12	NM	O	Current Patient Balance		Not Processed
47	12	NM	O	Total Charges		Not Processed
48	12	NM	O	Total Adjustments		Not Processed
49	12	NM	O	Total Payments		Not Processed
50	20	CX	O	Alternate Visit ID		Not Processed
51	1	IS	O	Visit Indicator		Not Processed
52	60	XCN	O	Other Healthcare Provider		Not Processed

For example:

```
PV1|1|O|WOUNDUNIT|R|||99999^ATTENDING^PHYSICIAN^|99999^REFERRING^PHYSICIAN^|
|||||AMB|||||||||||||||||||||20070101120000|20070101120000|
0|
```

4.7 IN1 – Insurance Segment

The Insurance Segment supplies information about the patient's insurance company. The table shows the entire segment, and a sample message follows the table.

SEQ	LEN	DT	OPT	ELEMENT NAME	FORMAT	NOTES*
1	4	SI	R	Set Id Insurance		
2	8	ID	O	Insurance Plan Id		
3	6	ST	O	Insurance Company Id		Not Processed

SEQ	LEN	DT	OPT	ELEMENT NAME	FORMAT	NOTES*
4	45	ST	R	Insurance Company Name		
5	106	AD	O	Insurance Company Address		
6	48	PN	O	Insurance Co. Contact Pers		
7	40	TN	O	Insurance Co Phone Number		
8	12	ST	O	Group Number		
9	35	ST		Group Name		Not Processed
10	12	ST		Insured's Group Emp Id		Not Processed
11	45	ST		Insured's Group Emp Name		Not Processed
12	8	DT	O	Plan Effective Date	CCYYMMDD	
13	8	DT	O	Plan Expiration Date	CCYYMMDD	
14	55	C M		Authorization Information		Not Processed
15	2	ID		Plan Type		
16	48	PN	O	Name Of Insured		
17	2	ID	O	Insured's Relationship To Patient		
18	8	DT		Insured's Date Of Birth		Not Processed
19	106	AD		Insured's Address		Not Processed
20	2	ID		Assignment Of Benefits		Not Processed
21	2	ID		Coordination Of Benefits		Not Processed
22	2	ST	O	Coord Of Ben. Priority		
23	2	ID		Notice Of Admission Code		Not Processed
24	8	DT		Notice Of Admission Date		Not Processed
25	2	ID		Rpt Of Eligibility Code		Not Processed
26	8	DT		Rpt Of Eligibility Date		Not Processed
27	2	ID		Release Information Code		Not Processed
28	15	ST		Pre Admit Cert (Pac)		Not Processed
29	26	TS		Verification Date/Time		Not Processed
30	60	C N		Verification By		Not Processed
31	2	ID		Type Of Agreement Code		Not Processed
32	2	ID		Billing Status		Not Processed
33	4	N M		Lifetime Reserve Days		Not Processed
34	4	N M		Delay Before L. R. Day		Not Processed
35	8	ID		Company Plan Code		Not Processed

SEQ	LEN	DT	OPT	ELEMENT NAME	FORMAT	NOTES*
36	15	ST	O	Policy Number		
37	12	N M		Policy Deductible		Not Processed
38	12	N M		Policy Limit Amount		Not Processed
39	4	N M		Policy Limit Days		Not Processed
40	12	N M		Room Rate Semi Private		Not Processed
41	12	N M		Room Rate Private		Not Processed
42	60	CE		Insured's Employment Status		Not Processed
43	1	ID		Insured's Sex		Not Processed
44	106	AD		Insured's Employer Address		Not Processed
45	2	ST		Verification Status		Not Processed
46	8	ID		Prior Insurance Plan Id		Not Processed

For example:

```
IN1|1|501081|501081|INSURANCE COMPANY NAME|PO BOX
4759^^PITTSBURGH^PA^15211|CONTACT^PERSON|412555555|GRPNBR|||20070301|
20100301|||TEST^PATIENT|SELF|||||||||POLICYNBR
```

4.8 MRG – Merge Segment

The Merge Segment supplies the MRN that is getting merged by the remaining MRN in the PID segment

SEQ	LEN	DT	OPT	ELEMENT NAME	FORMAT	NOTES*
1	20	CX	R	Prior Patient Identifier List		This is the MRN that is getting merged with the MRN in the PID segment, typically in PID.3
2	20	CX	B	Prior Alternate Patient ID		
3	20	CX	O	Prior Patient Account Number		Not Processed
4	20	CX	O	Prior Patient ID		Not Processed
5	20	CX	O	Prior Visit Number		Not Processed
6	20	CX	O	Prior Alternate Visit ID		Not Processed
7	48	XPN	O	Prior Patient Name		Not Processed

4.9 GT1 – Guarantor Segment

This segment is optional unless there is Professional Billing configured for iHeal HSP Physicians.

SEQ	LEN	DT	OPT	ELEMENT NAME	FORMAT	NOTES*
1	4	SI	R	Set ID		
2	59	CX	O	Guarantor Number		
3	48	XPN	R	Guarantor Name		
4				Guarantor Spouse Name		Not processed
5	106	XAD	O	Guarantor Address		
6	40	XTN	O	Guarantor Home Phone		Not processed
7	40	XTN	O	Guarantor Business Phone		Not processed
8	26	TS	O	Guarantor DOB	CCYYMMDD	
9	1	IS	O	Guarantor Gender		Not processed
10	2	IS	O	Guarantor Type		Not processed
11	80	CE	R	Guarantor Relationship		Note: iHeal available relationships integer values: 1 - Self 2 - Spouse 3 - Child 4 - Parent 5 - Other
12	11	ST	O	Guarantor SSN		Not processed

For example:

```
GT1|1|||LASTNAME^FIRSTNAME^S||1234 PARK
PLACE^^JACKSONVILLE^FL^30000|904-555-9876|||SP|444-55-6666|||RE|
```