MQSeries Integrator - HL7 Message adapter
Version 1.0

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Take Note!

Before using this report be sure to read the general information under "Notices".

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This edition applies to Version 1.0 of *MQSeries Integrator – HL7 Message adapter* and to all subsequent releases and modifications unless otherwise indicated in new editions.

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Summary of Amendments

Date	Changes
9th March 2001	Initial release

Preface

HL7 is an health care industry data format used to represent a vast array of medical items including patient details, test results, billing information and much, much more.

This document describes a plugin parser for MQSeries Integrator that allows HL7 formatted data to be worked with at a very high level.

Bibliography

- *IBM MQSeries Integrator for Windows NT Version 2 Installation Guide,* IBM Corporation. SC34-5600.

- *IBM MQSeries Integrator for Sun Solaris Version 2 Installation Guide,* IBM Corporation. SC34-5842

- *IBM MQSeries Integrator for AIX Version 2 Installation Guide,* IBM Corporation. SC34-5841

- *IBM MQSeries Integrator Version 2 Using the Control Center,* IBM Corporation. SC34-5602

- *IBM MQSeries Integrator Version 2 Programming Guide,* IBM Corporation. SC34-5603

Introduction

HL7 is an industry standard data representation used to represent many facets of health care information. A plugin parser for MQSeries Integrator V2.0.1 has been developed which parses HL7 data and may also be used to construct HL7 data.

The parser is able to operate without much actual knowledge of the HL7 semantics by taking advantage of the structure of HL7 messages.

Simply, a single HL7 message consists of a set of *segment* parts where each segment is terminated by a carriage-return (0x0D byte value). A segment consists of a segment name followed by a series of *fields* with each field delimited by a field separator. A single field may contain zero, one or more sub fields called *components* where components are separated by a component separator.
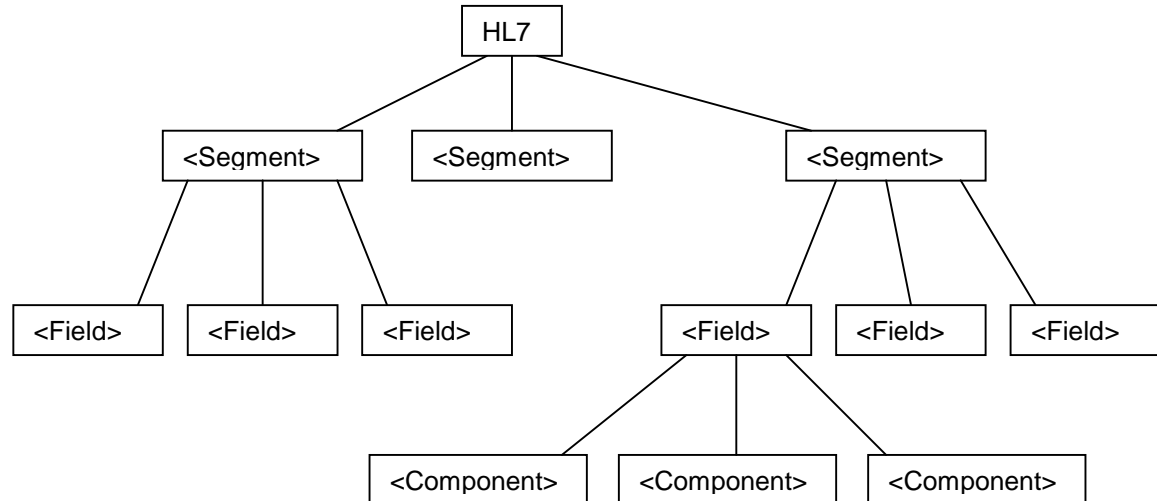
For example,

ABC|123|888|IBM^Corporation|<0x0D>

is a trivial HL7 message consisting of a segment called ABC which has 3 fields where the last fields is composed of two components.

The symbols used to delimit the messages (field and component separators) are defined in a special segment called the MSH segment. The first field of an MSH segment contains the delimiter characters used in the rest of the message.

The MQSI V2.0.1 parser for HL7 parses a HL7 message into the following structure:

For each segment that the parser finds in the input data, a new child of HL7 is created of node type NAME. The name of the node is the 3 character name of the segment. For each field found belonging to the segment, a new child of the segment node is created of type NAME/VALUE. The NAME is the constant "Field" and the value is that of the field contents. If the field contains components, the node that is created is of type NAME and again called "Field" but has one child for each component part. This child is of type NAME/VALUE with the name being "Component" and the value is that of the individual component.

A special case is made for any segment called "MSH" as it contains delimiter characters used by the rest of the message. When an MSH segment is found, a child of this node is created called "Delimiters" of type NAME which contains a NAME/VALUE child for each of the delimiter characters encountered.

```
MSH|^$`|ABCD|ABCDE|HL7X|ORN^366|<\r>
PID||000012345678|000012345678|000012345678|JOHN^DOE^Y^||19670825|1||2|34…<\r>
```

Would result in the tree:

```
Root->HL7->MSH->Delimiters->Field = '|'
Root->HL7->MSH->Delimiters->Component = '^'
…
Root->HL7->MSH->Field[1] = 'ABCD'
Root->HL7->MSH->Field[2] = 'ABCDE'
…
Root->HL7->PID->Field[1] = ''
Root->HL7->PID->Field[2] = '000012345678'
…
Root->HL7->PID->Field[5].Component[1] = 'John'
Root->HL7->PID->Field[5].Component[2] = 'Doe'
Root->HL7->PID->Field[5].Component[3] = 'Y'
```

Installation

SupportPac contents

The supplied zip file should be unzipped in a temporary directory. The following files and sub-directories will be created:

/Source

        Makefile.aix

        NodeUtils.c

        NodeUtils.h

        parser1.c

        ParserUtils.c

        ParserUtils.h

        StdAfx.cpp

        StdAfx.h

/NT

        HL7.lil

/AIX

        HL7.lil

license2.txt

ia0b.pdf

Prerequisites

This SupportPac provides a plug-in node to be used with the IBM MQSeries Integrator Version 2.0.1 and above. For normal use, there are no other prerequisite products other than those required by IBM MQSeries Integrator Version 2.0.1 itself. If any changes are to be made to the plug-in node, an appropriate C++ compiler is required.

Supported Platforms

This SupportPac has been developed and tested in an AIX and Microsoft Windows NT environment.

Installing the plug-in node on broker system

The plug-in '**lil**' file should be installed by copying or moving the appropriate file to the following directory:

•   <mqsi_root>\bin   (Windows)

•   <mqsi_root>/lil   (AIX)

You must stop and restart the broker to enable it to detect the existence of the new '**lil**'.