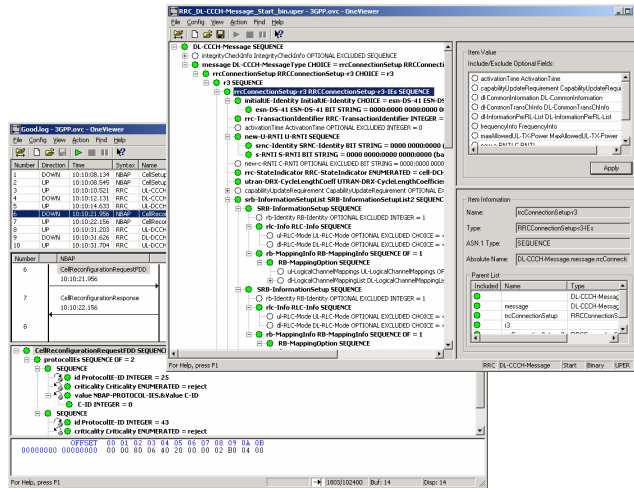


ASN.1 Message Editor and Flow Viewer



Features

- Build messages through an easy to use GUI
- Encode and decode messages using custom ASN.1 syntax
- Supports multiple custom ASN.1 syntaxes configured at run time
- Displays individual message details
- Displays multiple message flows simultaneously

Challenge

Using and verifying the operation of today's communicating systems is a difficult task and the introduction of ASN.1 based protocols has made this challenge even bigger.

The ability to use these systems is dependent on the creation of the appropriate message. In order to use and test these systems, many messages need to be created. Messages from several different ASN.1 syntaxes may also be involved. For the immature system where the ASN.1 syntax is changing frequently, messages will need to be recreated whenever new syntax definitions are released. Received messages also need to be examined and checked for correctness.

The development team also needs to be able to monitor

messages moving through the system in order to determine if the system is operating as expected.

Problem

The current approach to resolving this challenge is far from ideal. It involves the purchase of an ASN.1 compiler and the subsequent generation of 'C' source and header files. These files are then included into a user-created program to build messages and view message flows. This process is time consuming, complex, prone to error, and requires proficient software-engineering skills. It is a task not to be undertaken lightly. Ultimately these activities defocus the user from the primary task of using or validating the system.

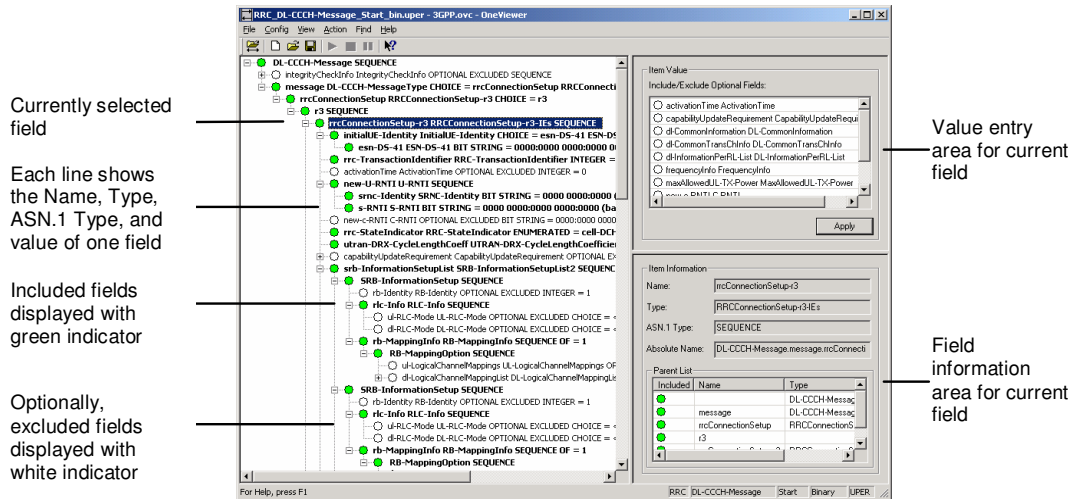
This approach is clumsy, error prone and time consuming.

Solution

For a simpler, easier, and lower cost solution, Red Packet Technologies has created OneViewer. This tool allows you to quickly, and easily, start building messages and viewing message flows using any ASN.1 syntax.

While eliminating the need to write programs, OneViewer does not prevent you from using your own ASN.1 syntax. This is vital given the dynamic nature of some evolving ASN.1 syntaxes. OneViewer provides an environment that can seamlessly cope with the changes.

In today's time-to-market driven world every month or week saved in product development can mean the difference between success and failure.



OneViewer in message mode

Key Product Features

The product works in one of two operating modes: Message or Log. In message mode you can create, edit, and view a single ASN.1 message. In log mode you can view messages and message flows for multiple syntax simultaneously.

Common Features

ASN.1 syntax configuration

OneViewer can be configured at run time to use any ASN.1 syntax. Multiple syntaxes can be supported simultaneously.

Easy to Use

OneViewer is operated through familiar Windows® user interface controls. No programming or training is required. The On-line and popup help is designed to make your start-up time as short as possible.

Information sharing

Information can be shared with colleagues by exporting the display data to an html file or via email.

Message Mode Features

In message mode you can create, edit, and view a single ASN.1 message.

Message creation

To create a new message, you select from a list of available ASN.1 syntaxes and then select from a list of available messages defined by the syntax.

On initialization, all mandatory fields are automatically created. The overall message structure is displayed in a tree format with the currently included fields highlighted.

Message editing

To edit a message each field can be selected in turn and on selection an appropriate value entry mechanism is displayed. Depending on the ASN.1 type the minimum and maximum limits will be displayed. For discrete types a complete list of all possible values will be displayed.

Optional fields can be included or excluded and the length of variable length fields specified.

The user does not need to reference back to the original ASN.1 syntax.

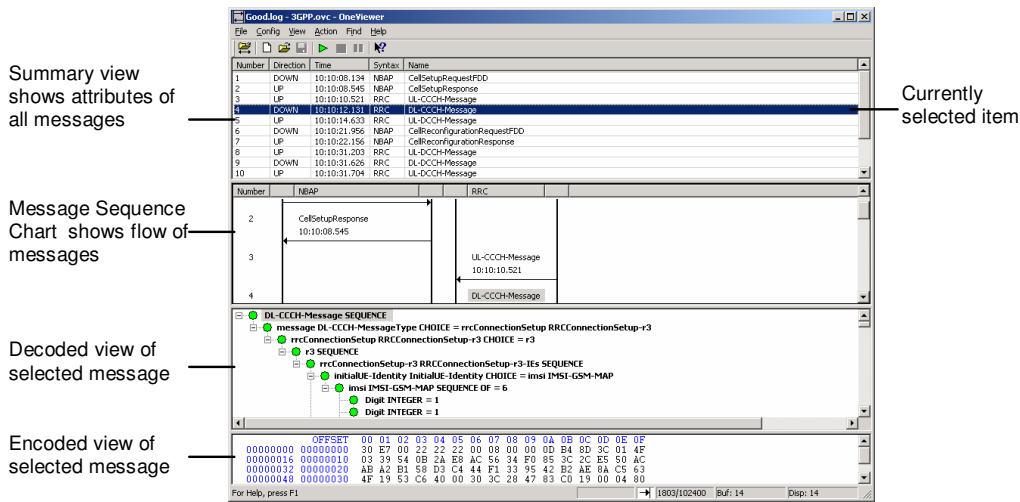
Information on the field's name, range, and value are displayed. All data is checked for validity when entered. If an incorrect value is entered, immediate feedback is given.

Message decode

A message can be decoded for display and editing simply by opening the encoded message. Any decode errors will also be displayed.

Input and Output

OneViewer can save the created message in either binary or ASCII format. The data is encoded as the message is being saved. The file format used is simple and can easily be read by other applications. More detailed information is available on request.



OneViewer in log mode

Log Mode Features

In log mode you can view messages and message flows for multiple syntax flows simultaneously.

Message Flow Views

The Summary and Message Sequence Chart (MSC) views clearly show the high level message flows. These views can be configured to display as much or as little information as required.

The value of a specific field in a message can also be extracted and displayed in these views.

Individual Message Views

Any message in the Summary or MSC views can be selected for further analysis. Upon selection, a detailed view of the decoded message is shown. An encoded message is also shown.

In the decoded view, all the field values in the message can be examined in detail.

A "find" function allows specific fields or values to be easily located.

General

Messages can be filtered from the display based on any of their parameters (syntax, message name, direction, and field value)

OneViewer can be configured to continuously display new messages as they are placed in the log file.

Input

OneViewer reads messages from a log file. The application under test places transmitted and received messages into this file as simple comma separated data values, such as encoded message data, name, timestamp, and direction.

OneViewer can be configured to continuously read from the log file. As the application under test puts messages into the file, OneViewer reads them and updates the views accordingly.

Typical Applications

Applications involving ASN.1 include:

- 3GPP Layer 3 Protocols (NBAP, RRC, RANAP, RNSAP)
- H.225 (H.323) Call Signalling Protocol
- Z39.50 Information Retrieval Protocol and Wide Area Information Server (WAIS)
- Secure Electronic Transaction Protocol (SET)

Applicable Standards

ITU-T X.680 through X.691

ISO/IEC 8824/8825

More Information

For more information, visit the company web site at:

<http://redpackettech.com> or contact info@redpackettech.com