ASN.1 Studio – Meeting the Challenge

**ASN.1 STUDIO
IS INCLUDED WITH THE
OSS ASN.1 TOOLS
FOR C, C++, C#, JAVA
&
ASN-1STEP**

Just Clicks Away

With ASN1 Studio, you literally need just a few mouse clicks to take any ASN.1 specification and actually run an application that encodes and decodes ASN.1 messages based upon it.

ASN.1 Studio can produce source code that demonstrates how to encode or decode any message whose type is defined in an ASN1 specification. This generated demonstration source code can be copy-pasted into your application and the message sample fields can simply be replaced with the actual fields that a message should contain.

ASN.1 Studio can "export" its projects to a format that is understood by a target language compiler, linker or IDE, such as Microsoft Visual Studio. This further simplifies the process of building your ASN.1-based application, as all the right C and C++ compiling and linking options are properly set in the exported Visual Studio project.

ASN.1 Studio™ is a powerful IDE included with several of the OSS ASN.1 products and is currently available on **Windows**, **Linux,** and **macOS** platforms. You can use ASN.1 Studio to graphically create or modify ASN.1 values, without writing any code.

The Challenge

Many standard protocols are specified using ASN.1. The use of ASN.1 makes them easier to read and implement compared to other specification techniques, such as tabular descriptions.

However, for ASN.1 specifications of any size and complexity, there is a need for a software tool that helps specification writers or application developers perform such tasks as decoding a message, viewing a message in a human-readable form, and creating sample messages and encodings. This becomes particularly important for large and rapidly evolving protocols, where two or more specifications are used in combination.

Meet the Challenge

ASN.1 Studio is OSS Nokalva's answer to that need. ASN.1 Studio's many features support the needs of different classes of ASN.1 users, facilitate testing and debugging of protocol implementations, and prevent the introduction of encoding/decoding errors. No training or programming is necessary for its use. In a short time you will be able to build and verify ASN.1 messages and encodings.

The first thing you usually do after launching the ASN.1 Studio is to open an ASN.1 specification. The ASN.1 specification can be one of the standard ones that are included in the ASN.1 Studio installation, or any valid ASN.1 specification available. You then create new messages, modify or analyze existing ones, or perform any of the other activities supported by the IDE.

View the ASN.1 Studio Tutorials

http://www.oss.com/asn1/products/asn1studio/tutorials.html

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ASN.1 Studio

Code Generation

Depending on the language supported by the product you purchased, ASN.1 Studio is capable of generating C, C++, C# or Java source code from the ASN.1 specification. For example, if you purchased the ASN.1 Tools for C, you will be able to generate the .c and .h files that you need to use in your development with ASN.1 Studio instead of the ASN.1/C command-line compiler.

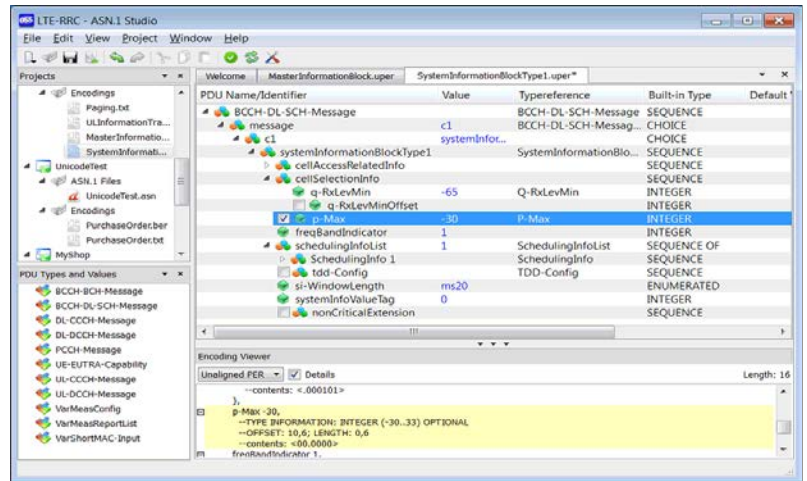## Specialized Message Viewers

Using ASN.1 Studio's Encoding Viewer, you can see the encoding of a message loaded in the Value Editor. When you select a row in the Value Editor, the corresponding encoding is highlighted. When you change a field value in the Value Editor, the encoding is automatically updated. The Encoding Viewer can be used with all standard encoding rules to display message encodings in a variety of formats. Additionally, for BER, CER, and DER, you can choose to display the tag-length-value format, and for PER, CPER, UPER, and CUPER you can select to see the bit-level details of an encoding.

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ASN.1 Editor

You can create, modify, and view ASN.1 specification files using the powerful visual editor which is specifically designed for editing ASN.1 notation.

- Reliable, conformant ASN.1 parsing – ASN.1 Studio is built upon the renowned ASN.1 compiler technology from OSS Nokalva, which fully supports the latest ASN.1 standards.
- Helpful error identification - precise and informative parsing messages
- Importing from Microsoft Word – ASN.1 Studio can automatically detect and extract an ASN.1 specification from a Microsoft Word file
- A set of commonly used ASN.1 specifications from various standards is included

Message Viewer/Editor

ASN.1 Studio can handle messages encoded in any of the standard ASN.1 encoding rules (BER, CER, DER, PER, CPER, OER, COER, XER, E-XER, JSON).

- Reliable, conformant ASN.1 encoding/decoding – ASN.1 Studio is built on the robust and proven ASN.1 encoding/decoding technology from OSS Nokalva.
- The Value Editor displays a message in a tree view.
- Includes support for CSV encoding rules which are based on the Comma-Separated Values (CSV) format.
- Unrestricted message manipulations - create, load from file, modify, save, re-encode to a different encoding - for example, a PER message can be re-encoded and saved in XML format
- Immediate encoding and feedback when modifying the message
- Enumerations and choice alternatives are presented as drop-down lists, thus preventing the input of illegal values for those types.