

HIGH LEVEL PERFORMANCES ASN.1 TOOLS FOR C, C++ AND JAVA



MARBEN ASNSDK SPEEDS UP THE DEVELOPMENT OF YOUR ASN.1 BASED APPLICATIONS REQUIRING PER, OER, COER, BER, DER, JER, XER AND CXER ENCODING/DECODING RULES.

EFFICIENT AND ROBUST SOLUTION – *DESIGNED TO SATISFY HIGH LEVEL OF PERFORMANCES REQUIREMENTS*

FAST / SMALL MEMORY FOOT PRINT

- The fastest ASN.1 encoder/decoder.
- Designed for embedded systems with high memory constraints.

MULTI-THREADS SAFE

- Our runtimes are fully re-entrant in order to run on multi-threads systems.

COST EFFECTIVE – *SPEED UP YOUR DEVELOPMENTS AND REDUCE TIME TO MARKET.*

EASY TO USE

- Reduces the development and integration time due to easy and user friendly APIs.
- Built for the novice who only needs generic simple functions as for the expert who needs to execute specific data processing.

EASY TO INTEGRATE

- Provides XML traces for an easy interpretation.
- XML built-in facilities to develop integration tests.

PLATFORM INDEPENDENT – *BENEFIT FROM OUR LONG EXPERIENCE IN THE DESIGN OF PORTABLE SOFTWARE.*

PORTABLE

- ASN.1 runtimes are provided in portable source code that can run on most operating systems and hardware MISRA-C compliant for automotive industry.
- ASN.1 Java runtime is compatible with Oracle Java Runtime Environment and OpenJDK.

EASY CUSTOMIZATION

- Only one simple file allows you to customize the runtime.
- Use your own memory management.

TARGET APPLICATIONS

BTS, gNB, NodeB, Femtocell, 6G, 5G, 4G/LTE Mobile phone application, Roaming application, TAP3, CDR parser, Billing WiMax, Automotive V2X, ITS (Intelligent Transportation System), eCall, NGTP...

About Marben

A leading provider of key software solutions for next generation service-driven networks.

More than 30 years of experience

Delivers interoperable, robust and efficient signaling, routing and AAA solutions to accelerate the delivery of network services.

Marben Customers

Airbus, Be-Mobile, Bosch, Ciena, Cisco, Continental, CSG, Ericsson, ESA, Fujitsu, GMV, HP, Nokia, NEC, Oracle, Siemens, Sprint, Telstra, Valeo, Verizon, Volvo ...

TECHNICAL OVERVIEW

ASNSDK TCE encompasses an ASN.1 compiler, an ASN.1 to XML translator and a **PER** (*aligned and unaligned variant*), **OER** (*basic and canonical*), **BER**, **DER**, **JER** and **XER** (*basic and canonical*) encoding/decoding engines providing ANSI C, C++ or Java API.

ASN.1 COMPILER

The ASN.1 compiler conforms to ASN.1 standards. It takes as input the user ASN.1 description, performs syntax and semantic checks and produces, if needed, the corresponding error messages. It generates a C, C++ or Java API corresponding to the user ASN.1 description, used by the TCE runtimes to process ASN.1 data.

ASN.1 RUNTIMES

The TCE runtimes provide **encoding/decoding** services as well as permissive or strict **constraints check** and **traces** services. The user application has access to these services through the C, C++ or Java API generated by the ASN.1 compiler. The C, C++ or Java APIs are user-friendly. To each type of the input ASN.1 description, corresponds a C structure, a C++ or a Java class. To encode or decode a value, simply call the suitable method/function for PER, OER, COER, BER, DER, JER, XER or CXER rule. The TCE runtimes reduce the complexity of your application programs by being able to automatically encode or decode open type values.

TCE C and C++ are provided both with time optimized and memory optimized runtimes to best suit your needs. The user can easily switch from the time optimized to the memory optimized runtime without changing source code.

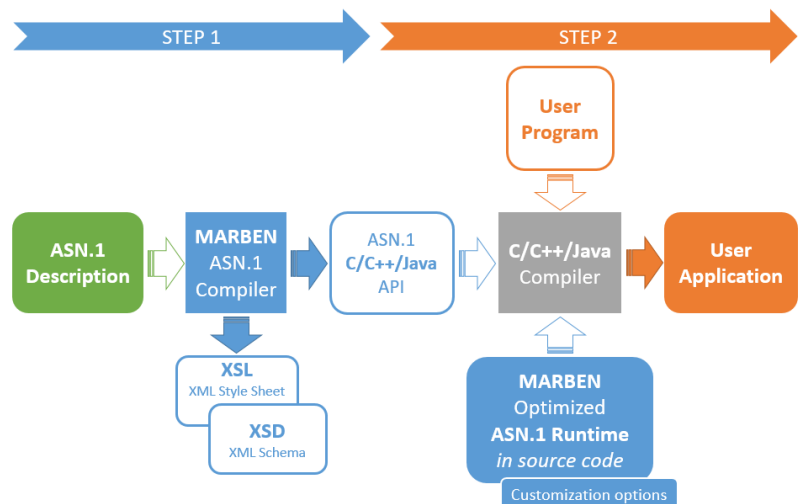
The ASNSDK TCE-C product is fully automotive grade as it is following the Motor Industry Software Reliability Association standard for C (MISRA-C).

SPECIFIC, GENERIC AND SAX-LIKE JAVA API

In addition to the The TCE-Java runtimes also offer a Generic Java API to handle ASN.1 data in a generic way. The Generic Java API provides Java classes that are independent of the input ASN.1 description. The user has access to an ASN.1 value by providing the name of its ASN.1 type or the numeric identifier generated by the ASN.1 compiler. The SAX-like API works exactly like an XML SAX API. Each decoded ASN.1 piece of data is given back to the user in an XML format.

ASN.1 XML TRANSLATOR

Based on the input ASN.1 description, the ASN.1 compiler generates an XML Schema (XSD) that conforms to XER (XML Encoding Rules) together with a default XML Style sheet (XSL). Used in conjunction with the XER runtime, these features enable the user to encode/decode any XML values and to use the XSL to process ASN.1 values.



CONTACTS

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CONFORMANCE

ITU-T X.680 - ISO/IEC 8824-1,
ITU-T X.681 - ISO/IEC 8824-2,
ITU-T X.682 - ISO/IEC 8824-3,
ITU-T X.683 - ISO/IEC 8824-4,
ITU-T X.690 - ISO/IEC 8825-1,
ITU-T X.691 - ISO/IEC 8825-2,
ITU-T X.693 - ISO/IEC 8825-4,
ITU-T X.696 - ISO/IEC 8825-7,
ITU-T X.697 - ISO/IEC 8825-8.

RELATED OFFERS

MARBEN ASN.1 Value Editor: A powerful and user friendly graphical tool that allows you to rapidly decode, create, edit, modify and encode any ASN.1 values without developing anything.

MARBEN CDR Converter: A command line tool that allows the conversion of any ASN.1 encoded file into a CSV or XML like text format.

MARBEN ASN.1 Consulting, Training and Custom Services.

SYSTEM REQUIREMENTS

TCE ASN.1 Compiler: PC Windows, PC Linux and UNIX platforms.

TCE runtimes are delivered as portable source code.

TCE Java runtimes are compatible with Java Runtime Environment from Oracle or OpenJDK.