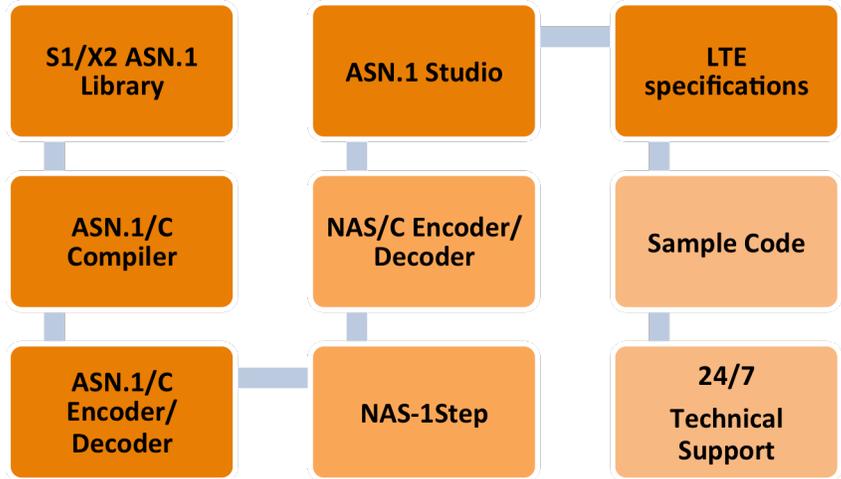# GET AHEAD WITH OSS' 4G PRODUCTS

4G Is Here.

Are You Ready?

The **OSS Nokalva 4G Products** are a complete, easy to use 4G ASN.1 and NAS product suite, tailored to meet the needs of LTE developers. The 4G Products are currently available on Windows, Linux, and several embedded platforms. Other platforms are available on request.

Get All You Need

Get all you need to support 4G ASN.1 and NAS development, all in one place, and all from a company whose commitment to quality and service you know you can rely on.

S1/X2 ASN.1 Library	ASN.1 Studio	LTE specifications
ASN.1/C Compiler	NAS/C Encoder/Decoder	Sample Code
ASN.1/C Encoder/Decoder	NAS-1Step	24/7 Technical Support

ASN.1/C Tools with S1/X2	
S1/X2 ASN.1 Library	Library shielding S1/X2 developers from low-level ASN.1 data structures manipulation
S1/X2 API Samples	Sample code showing how to create messages using the S1/X2 ASN.1 Library API targeting the needs of eNodeB and MME developers
ASN.1/C Compiler	Powerful ASN.1:2008 capable compiler
ASN.1/C Encoders/Decoders	Industry-proven, reliable ASN.1 runtime libraries capable of unparalleled encoding/decoding speed
ASN.1 Studio™	ASN.1 IDE that further simplifies the 4G development. Includes custom projects and sample messages for 3GPP LTE S1, X2 and RRC
LTE ASN.1 Specifications & Samples	Support for 3GPP Rel 8-14: S1, X2, and RRC sample code for various 3GPP Releases showing how to encode/decode messages using the OSS ASN.1 runtime
NAS-1Step	
	Visual application that allows you to create, view and edit NAS messages
NAS/C Encoder/Decoder Library	
	A library capable of converting (binary) NAS messages
Included with all 4G Products	
Documentation	API and Getting Started user manuals
Technical Support	24 hours a day, 7 days a week

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4G Products – More than Low-Level ASN.1 Support

The **OSS 4G Products** go beyond support for low-level ASN.1 development. These products offer several components designed to ease your implementation of 3GPP LTE **S1** and **X2** protocols for eNodeBs and MMEs, as well as **NAS** protocols for UEs and eNodeBs.

LTE S1/X2 Support

The **4G S1/X2 ASN.1 Library** is a wrapper around the ASN.1 encoder/decoder, which automates common tasks associated with protocol messaging. The Library reduces your development effort by providing a set of functions that address S1 and X2 data interpretation and construction tasks, thereby shielding S1/X2 developers from low-level ASN.1 data structure manipulation.

By using our proven OSS ASN.1 encoders/decoders, and continuing OSS' long tradition of developing software highly optimized for embedded systems, the S1/X2 ASN.1 Library makes it possible to deploy LTE stacks on different types of platforms, from resource constrained eNodeBs to high performance MMEs.
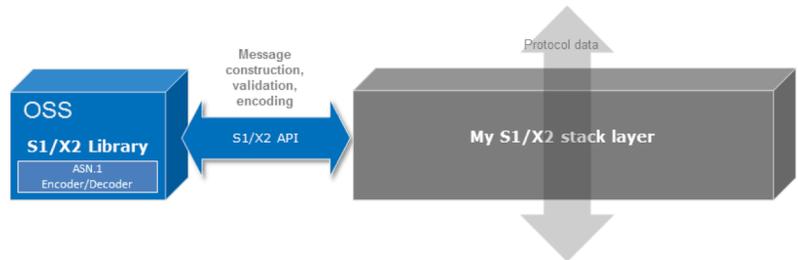
LTE NAS Support

NAS-1Step is a useful visual tool for anyone working with the NAS protocol, from system designers to application developers to testers. It can be used for a range of activities including displaying a NAS message in a collapsible treeview, editing a NAS message, creating a set of NAS messages for testing purposes, and so on, and allows one to work simultaneously with messages belonging to multiple versions of the NAS protocol (multiple 3GPP releases).

The NAS/C Encoder/Decoder Library facilitates the creation of applications that implement the NAS protocol by taking care of all the unique NAS message serialization aspects such as required and optional information elements, bitlevel format of each type of information element, bit order, half-octet order, and so on. A developer using this encoder/decoder will handle a set of C structures generated by OSS' ASN.1/C compiler and will make simple calls to encode and decode functions as well as auxiliary API functions as needed.

Current users of OSS' ASN.1/C Tools will feel at home with the OSS NAS encoder/decoder API because both the API functions and the C structures are very similar to those used with protocols specified in ASN.1.

4G PRODUCTS
WITH SUPPORT FOR
3GPP REL 8-14*

*Note: ASN.1 Studio, and the ASN.1/C, ASN.1/C++, ASN/1/Java and ASN.1/C# Tools support any valid ASN.1 schema, including those from 3GPP Rel 8-14 and beyond. Support for Rel 12 and 13 is currently available for S1/X2, NAS/C, NAS/C++ and NAS-1Step, with support for Rel 14 coming soon. Contact OSS for details.

OSS' 4G Products can be easily ported to any platform because OSS has already ported the underlying ASN.1/C encoder/decoder library to more than 500 platforms.

Download Your Free Trial Today

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