Using the OpenSource ASN.1 Compiler

Contents

ASN.1 Basics

Chapter 1

Abstract Syntax Notation: ASN.1

ASN.1. For example, this data structure may be encoded according to some encoding rules and sent to the destination using the TCP protocol. The ASN.1 specifies several

1.1.3 The ENUMERATED type

1.3   ASN.1 Constructed Types

1.3.1   The SEQUENCE type

This is an ordered collection of other simple or constructed types. The SEQUENCE
constructed type resembles the C "struct" statement.

```
Address ::= SEQUENCE {
    -- The apartment number may be omitted
    apartmentNumber     NumericString OPTIONAL,
    streetName          PrintableString,
    cityName            PrintableString,
    stateName           PrintableString,
    -- This one may be omitted too
    zipNo               NumericString OPTIONAL
}
```

1.3.2   The SET type

This is a collection of other simple or constructed types. Ordering is not important. The

```
-- an array of structures defined in place.
ManyCircles ::= SEQUENCE OF SEQUENCE {
                               radius INTEGER
                               }
```

1.3.5   The SET OF type

The SET OF type models the bag of structures. It resembles the SEQUENCE OF type, but the order is not important: i.e. the elements may arrive in the order which is not

Part II

ASN.1 Compiler

Chapter 2

Introduction to the ASN.1 Compiler

Chapter 3

Quick start

After building and installing the compi9er, the *asn1c* [1]

Chapter 4

Overall Options	Description
-E	Stop after the parsing stage and print the reconstructed ASN.1 specification code to the standard output.
-F	Used together with -E, instructs the compiler to stop after the ASN.1 syntax tree fixing stage and dump the reconstructed ASN.1 specification to the standard output.
-P	Dump the compiled output to the standard output instead of

4.3.2   Encoding DER

The Distinguished Encoding Rules is the *canonical* variant of BER encoding rules. The

Please look into der_encoder.h for the precise definition of der_encode() and related types.

4.3.3 Encoding XER

The XER stands for XML Encoding Rules, where XML, in turn, is eXtensible Markup

it does not point to the memory block directly allocated by memory allocation routine, but instead lies within such a block allocated for my_figure structure.

To solve this problem, the free_struct 64pTIa tem,gume   t(besidd

Part III

Examples

Chapter 5

Step by step examples

5.1 A "Rectangle" Encoder

This chapter will help you to create a simple BER and XER encoder of a "Rectangle" type used throughout this document.

5.2   A "Rectangle" Decoder

This chapter will help you to create a simple BER decoder of a simple "Rectangle"
type used throughout this document.

1. Create a fiin602.025 204.37nn150(D0h)-24v0(D0h) Tf 185.574 602.0Nn0 9.96This 63.4626nt.