

**NAME**

`i2s_ASN1_IA5STRING`, `s2i_ASN1_IA5STRING`, `i2s_ASN1_INTEGER`, `s2i_ASN1_INTEGER`, `i2s_ASN1_OCTET_STRING`, `s2i_ASN1_OCTET_STRING`, `i2s_ASN1_ENUMERATED`, `i2s_ASN1_ENUMERATED_TABLE`, `i2s_ASN1_UTF8STRING`, `s2i_ASN1_UTF8STRING` - convert objects from/to ASN.1/string representation

**SYNOPSIS**

```
#include <openssl/x509v3.h>
```

```
char *i2s_ASN1_IA5STRING(X509V3_EXT_METHOD *method, ASN1_IA5STRING *ia5);
ASN1_IA5STRING *s2i_ASN1_IA5STRING(X509V3_EXT_METHOD *method,
    X509V3_CTX *ctx, const char *str);
char *i2s_ASN1_INTEGER(X509V3_EXT_METHOD *method, const ASN1_INTEGER *a);
ASN1_INTEGER *s2i_ASN1_INTEGER(X509V3_EXT_METHOD *method, const char *value);
char *i2s_ASN1_OCTET_STRING(X509V3_EXT_METHOD *method,
    const ASN1_OCTET_STRING *oct);
ASN1_OCTET_STRING *s2i_ASN1_OCTET_STRING(X509V3_EXT_METHOD *method,
    X509V3_CTX *ctx, const char *str);
char *i2s_ASN1_ENUMERATED(X509V3_EXT_METHOD *method, const ASN1_ENUMERATED *a);
char *i2s_ASN1_ENUMERATED_TABLE(X509V3_EXT_METHOD *method,
    const ASN1_ENUMERATED *e);

char *i2s_ASN1_UTF8STRING(X509V3_EXT_METHOD *method,
    ASN1_UTF8STRING *utf8);
ASN1_UTF8STRING *s2i_ASN1_UTF8STRING(X509V3_EXT_METHOD *method,
    X509V3_CTX *ctx, const char *str);
```

**DESCRIPTION**

These functions convert OpenSSL objects to and from their ASN.1/string representation. This function is used for **X509v3** extensions.

**NOTES**

The letters **i** and **s** in **i2s** and **s2i** stand for "internal" (that is, an internal C structure) and string respectively. So **i2s\_ASN1\_IA5STRING()** converts from internal to string.

It is the caller's responsibility to free the returned string. In the **i2s\_ASN1\_IA5STRING()** function the string is copied and the ownership of the original string remains with the caller.

**RETURN VALUES**

**i2s\_ASN1\_IA5STRING()** returns the pointer to a IA5 string or NULL if an error occurs.

**s2i\_ASN1\_IA5STRING()** return a valid **ASN1\_IA5STRING** structure or NULL if an error occurs.

**i2s\_ASN1\_INTEGER()** return a valid string or NULL if an error occurs.

**s2i\_ASN1\_INTEGER()** returns the pointer to a **ASN1\_INTEGER** structure or NULL if an error occurs.

**i2s\_ASN1\_OCTET\_STRING()** returns the pointer to a **OCTET\_STRING** string or NULL if an error occurs.

**s2i\_ASN1\_OCTET\_STRING()** return a valid **ASN1\_OCTET\_STRING** structure or NULL if an error occurs.

**i2s\_ASN1\_ENUMERATED()** return a valid string or NULL if an error occurs.

**s2i\_ASN1\_ENUMERATED()** returns the pointer to a **ASN1\_ENUMERATED** structure or NULL if an error occurs.

**s2i\_ASN1\_UTF8STRING()** return a valid **ASN1\_UTF8STRING** structure or NULL if an error occurs.

**i2s\_ASN1\_UTF8STRING()** returns the pointer to a UTF-8 string or NULL if an error occurs.

## HISTORY

**i2s\_ASN1\_UTF8STRING()** and **s2i\_ASN1\_UTF8STRING()** were made public in OpenSSL 3.0.

## COPYRIGHT

Copyright 2020-2021 The OpenSSL Project Authors. All Rights Reserved.

Licensed under the Apache License 2.0 (the "License"). You may not use this file except in compliance with the License. You can obtain a copy in the file LICENSE in the source distribution or at <https://www.openssl.org/source/license.html>.