

**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.

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