NAME

OSSL_STORE_SEARCH, OSSL_STORE_SEARCH_by_name,
OSSL_STORE_SEARCH_by_issuer_serial, OSSL_STORE_SEARCH_by_key_fingerprint,
OSSL_STORE_SEARCH_by_alias, OSSL_STORE_SEARCH_free,
OSSL_STORE_SEARCH_get_type, OSSL_STORE_SEARCH_get0_name,
OSSL_STORE_SEARCH_get0_serial, OSSL_STORE_SEARCH_get0_bytes,
OSSL_STORE_SEARCH_get0_string, OSSL_STORE_SEARCH_get0_digest - Type and functions to
create OSSL_STORE search criteria

SYNOPSIS

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

typedef struct ossl_store_search_st OSSL_STORE_SEARCH;

OSSL_STORE_SEARCH *OSSL_STORE_SEARCH_by_name(X509_NAME *name);
OSSL_STORE_SEARCH *OSSL_STORE_SEARCH_by_issuer_serial(X509_NAME *name,
                             const ASN1_INTEGER
                             *serial);
OSSL_STORE_SEARCH *OSSL_STORE_SEARCH_by_key_fingerprint(const EVP_MD *digest,
                              const unsigned char
                              *bytes, int len);
OSSL_STORE_SEARCH *OSSL_STORE_SEARCH_by_alias(const char *alias);

void OSSL_STORE_SEARCH_free(OSSL_STORE_SEARCH *search);

int OSSL_STORE_SEARCH_get_type(const OSSL_STORE_SEARCH *criterion);
X509_NAME *OSSL_STORE_SEARCH_get0_name(OSSL_STORE_SEARCH *criterion);
const ASN1_INTEGER *OSSL_STORE_SEARCH_get0_serial(const OSSL_STORE_SEARCH
                             *criterion);
const unsigned char *OSSL_STORE_SEARCH_get0_bytes(const OSSL_STORE_SEARCH
                             *criterion, size_t *length);
const char *OSSL_STORE_SEARCH_get0_string(const OSSL_STORE_SEARCH *criterion);
const EVP_MD *OSSL_STORE_SEARCH_get0_digest(const OSSL_STORE_SEARCH
                             *criterion);
```

DESCRIPTION

These functions are used to specify search criteria to help search for specific objects through other
names than just the URI that's given to **OSSL_STORE_open**(). For example, this can be useful for an
application that has received a URI and then wants to add on search criteria in a uniform and supported
manner.

Types

OSSL_STORE_SEARCH is an opaque type that holds the constructed search criterion, and that can be given to an OSSL_STORE context with **OSSL_STORE_find()**.

The calling application owns the allocation of an **OSSL_STORE_SEARCH** at all times, and should therefore be careful not to deallocate it before **OSSL_STORE_close()** has been called for the OSSL_STORE context it was given to.

Application Functions

OSSL_STORE_SEARCH_by_name(), **OSSL_STORE_SEARCH_by_issuer_serial()**, **OSSL_STORE_SEARCH_by_key_fingerprint()**, and **OSSL_STORE_SEARCH_by_alias()** are used to create an **OSSL_STORE_SEARCH** from a subject name, an issuer name and serial number pair, a key fingerprint, and an alias (for example a friendly name). The parameters that are provided are not copied, only referred to in a criterion, so they must have at least the same life time as the created **OSSL_STORE_SEARCH**.

OSSL_STORE_SEARCH_free() is used to free the **OSSL_STORE_SEARCH**.

Loader Functions

OSSL_STORE_SEARCH_get_type() returns the criterion type for the given **OSSL_STORE_SEARCH**.

OSSL_STORE_SEARCH_get0_name(), **OSSL_STORE_SEARCH_get0_serial()**, **OSSL_STORE_SEARCH_get0_bytes()**, **OSSL_STORE_SEARCH_get0_string()**, and **OSSL_STORE_SEARCH_get0_digest()** are used to retrieve different data from a **OSSL_STORE_SEARCH**, as available for each type. For more information, see "SUPPORTED CRITERION TYPES" below.

SUPPORTED CRITERION TYPES

Currently supported criterion types are:

OSSL_STORE_SEARCH_BY_NAME
> This criterion supports a search by exact match of subject name. The subject name itself is a **X509_NAME** pointer. A criterion of this type is created with **OSSL_STORE_SEARCH_by_name()**, and the actual subject name is retrieved with **OSSL_STORE_SEARCH_get0_name()**.

OSSL_STORE_SEARCH_BY_ISSUER_SERIAL
> This criterion supports a search by exact match of both issuer name and serial number. The issuer name itself is a **X509_NAME** pointer, and the serial number is a **ASN1_INTEGER** pointer. A

criterion of this type is created with **OSSL_STORE_SEARCH_by_issuer_serial()** and the actual issuer name and serial number are retrieved with **OSSL_STORE_SEARCH_get0_name()** and **OSSL_STORE_SEARCH_get0_serial()**.

OSSL_STORE_SEARCH_BY_KEY_FINGERPRINT

This criterion supports a search by exact match of key fingerprint. The key fingerprint in itself is a string of bytes and its length, as well as the algorithm that was used to compute the fingerprint. The digest may be left unspecified (NULL), and in that case, the loader has to decide on a default digest and compare fingerprints accordingly. A criterion of this type is created with **OSSL_STORE_SEARCH_by_key_fingerprint()** and the actual fingerprint and its length can be retrieved with **OSSL_STORE_SEARCH_get0_bytes()**. The digest can be retrieved with **OSSL_STORE_SEARCH_get0_digest()**.

OSSL_STORE_SEARCH_BY_ALIAS

This criterion supports a search by match of an alias of some kind. The alias in itself is a simple C string. A criterion of this type is created with **OSSL_STORE_SEARCH_by_alias()** and the actual alias is retrieved with **OSSL_STORE_SEARCH_get0_string()**.

RETURN VALUES

OSSL_STORE_SEARCH_by_name(), **OSSL_STORE_SEARCH_by_issuer_serial()**, **OSSL_STORE_SEARCH_by_key_fingerprint()**, and **OSSL_STORE_SEARCH_by_alias()** return a **OSSL_STORE_SEARCH** pointer on success, or NULL on failure.

OSSL_STORE_SEARCH_get_type() returns the criterion type of the given **OSSL_STORE_SEARCH**. There is no error value.

OSSL_STORE_SEARCH_get0_name() returns a **X509_NAME** pointer on success, or NULL when the given **OSSL_STORE_SEARCH** was of a different type.

OSSL_STORE_SEARCH_get0_serial() returns a **ASN1_INTEGER** pointer on success, or NULL when the given **OSSL_STORE_SEARCH** was of a different type.

OSSL_STORE_SEARCH_get0_bytes() returns a **const unsigned char** pointer and sets *length* to the strings length on success, or NULL when the given **OSSL_STORE_SEARCH** was of a different type.

OSSL_STORE_SEARCH_get0_string() returns a **const char** pointer on success, or NULL when the given **OSSL_STORE_SEARCH** was of a different type.

OSSL_STORE_SEARCH_get0_digest() returns a **const EVP_MD** pointer. NULL is a valid value and means that the store loader default will be used when applicable.

SEE ALSO

ossl_store(7), **OSSL_STORE_supports_search**(3), **OSSL_STORE_find**(3)

HISTORY

OSSL_STORE_SEARCH, **OSSL_STORE_SEARCH_by_name**(),
OSSL_STORE_SEARCH_by_issuer_serial(), **OSSL_STORE_SEARCH_by_key_fingerprint**(),
OSSL_STORE_SEARCH_by_alias(), **OSSL_STORE_SEARCH_free**(),
OSSL_STORE_SEARCH_get_type(), **OSSL_STORE_SEARCH_get0_name**(),
OSSL_STORE_SEARCH_get0_serial(), **OSSL_STORE_SEARCH_get0_bytes**(), and
OSSL_STORE_SEARCH_get0_string() were added in OpenSSL 1.1.1.

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