

Appendix 7B

Name Service Multiplexor

Constants and Definitions

Constants

The following constant definitions can be found in header file NAME_SVC.H included with NIOS. These constant definitions are used by the name service multiplexor and the name service providers in order to implement the name service interface defined in this document.

Name Service Types

```
#define NAME_SVC_ANY 0x00000000
#define NAME_SVC_BINDERY_ID 0x00000001
#define NAME_SVC_NDS_ID 0x00000002
#define NAME_SVC_PNW_ID 0x00000003
#define NAME_SVC_WILD 0x80000000
```

String Types

```
#define SPECT_DATA_ASCII 0x00000001
#define SPECT_DATA_UNICODE 0x00000002
```

Transport Types

```
#define TRAN_TYPE_IPX 0x00000001
#define TRAN_TYPE_TCP 0x00000002
#define TRAN_TYPE_WILD 0x80000000
```

Service Types

```
#define SVC_TYPE_NCP_SERVER "NCP_SERVER"
```

Object Types

```
#define USER_OBJECT_TYPE "USER"
#define USER_GROUP_OBJECT_TYPE "GROUP"
#define PRINT_QUEUE_OBJECT_TYPE "QUEUE"
#define NCP_SERVER_OBJECT_TYPE "NCP_SERVER"
```

Structure Definitions

The following structure definitions can be found in header file NAME_SVC.H included with NIOS. These structure definitions are used by the name service multiplexor and the name service providers in order to implement the name service interface defined in this document.

SPECT_DATA

The data structure for specifying a string in either Unicode or in local code page.

```
typedef struct {
    UINT32    Length;
    UINT8     *Data;
    UINT32    DataType;
    UINT16    LocalCodePage;
    UINT16    CountryCode;
} SPECT_DATA;
```

Fields:

<i>Length</i>	Length of name pointed to by <i>name</i> .
<i>Data</i>	Pointer to a string that can be encoded in either Unicode or in a local code page.
<i>DataType</i>	Specifies whether <i>name</i> is encoded in Unicode or in the local code page. Must be one of the following values: SPECT_DATA_ASCII SPECT_DATA_UNICODE
<i>LocalCodePage</i>	Decimal value of local code page if <i>string</i> is of type SPECT_DATA_ASCII. A value of zero means to use the default local code page.
<i>CountryCode</i>	Decimal value of country. A value of zero means to use the default local code page.

TRAN_ADDR_TYPE

The data structure definition for a transport address returned by a name service provider.

```
typedef struct {
    UINT32    transportType;
    UINT32    transportLen;
    UINT8     transportAddr[32];
} TRAN_ADDR_TYPE;
```

Fields:

<i>transportType</i>	Type of transport address returned (for example, IPX or TCP).
<i>transportLen</i>	Length of returned transport address.
<i>transportAddr</i>	Buffer that contains the transport address. (It is assumed that 32 bytes is large enough to hold any transport address to be used by this interface).

NAME_SVC_DESC_BLOCK

Describes the data structure that a name service provider registers with the name service multiplexor that further describes the name service provider being registered. This information can be obtained by other NLMs by calling `NSMEnumerateNameSvc`.

```
typedef struct {
    UINT8    majorVersion;
    UINT8    minorVersion,
    UINT8    revision;
    UINT8    name[13];
    UINT8    description[80];
    UINT32   nameSvcID;
} NAME_SVC_DESC_BLOCK;
```

Fields:

<i>majorVersion</i>	Major version of this name service provider.
<i>minorVersion</i>	Minor version of this name service provider.
<i>revision</i>	Revision of this name service provider.
<i>name</i>	ASCIIZ name of this name service provider.
<i>description</i>	ASCIIZ description of this name service provider.
<i>nameSvcID</i>	Unique name service ID assigned to this name service provider.

NAME_SVC_API_SET_TYPE

The following functions must be implemented by a name service provider to be compatible with the name service interface described in this document. A name service provider will register these functions with the name service multiplexor by calling the service **NSMRegisterNameSvc**.

```
typedef struct {
    UINT32      (*NSPGetPreferredName) (
        UINT32      processGroupID,
        UINT32      processID,
        SPECT_DATA  *name);

    UINT32      (*NSPSetPreferredName) (
        UINT32      processGroupID,
        UINT32      processID,
        SPECT_DATA  *name);

    UINT32      (NSPResolveNameToAddress) (
        UINT32      processGroupID,
        UINT32      processID,
        CONN_HANDLE connHandle,
        SPECT_DATA  *objectName,
        SPECT_DATA  *objectType,
        UINT32      transportType,
        VOID        *nameSvcSpec,
        UINT8       *repSessSvcID,
        TRAN_ADDR_TYPE *repTranAddr,
        UINT32      *repTranAddrCount );

    UINT32      (NSPResolveObjectToID) (
        UINT32      processGroupID,
        UINT32      processID,
        CONN_HANDLE connHandle,
        SPECT_DATA  *objectName,
        SPECT_DATA  *objectType,
        UINT32      transportType,
        VOID        *nameSvcSpec,
        UINT32      *repObjectID,
        UINT8       *repSessSvcID,
        TRAN_ADDR_TYPE *repTranAddr,
        UINT32      *repTranAddrCount );

} NAME_SVC_API_SET_TYPE;
```

Return Codes

Following are the codes that can be returned by the Name Service Multiplexor/Providers that implement the Name Service Interface.

Code	Meaning
SUCCESS_CODE	Operation completed successfully.
NAME_SVC_NOT_REGISTERED	Specified name service provider is not registered with the name service multiplexor.
NAME_SVC_ALREADY_REGISTERED	Specified name service provider is already registered with the name service multiplexor.
RESOLVE_NAME_FAILED	No name service provider could resolve the supplied name to a network address.
RESOLVE_OBJECT_FAILED	No name service provider could resolve the supplied object name to an object ID.
INVALID_PARAMETER	Supplied input/output parameter is not valid for the operation being performed.
MORE_DATA_ERROR	Output buffer is not large enough to receive results of operation being performed.