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**Request For Comments: 81.0**
**March 1995**

# DCE ASSIGNED VALUES

## 1. INTRODUCTION

DCE includes a number of architected values in a variety of areas. The official documentation for these values is the ''Application Environment Specification'' (AES) volumes. Because the AES production cycle is long, this document can be considered to be an update, reflecting changes that are likely to appear in the ''next edition'' of the appropriate AES.

Note that until the AES is published, OSF does not officially condone or endorse any of the values enumerated here. In particular, we take no position on conflicting assignments. We do, however, encourage licensees and implementors to take interoperability as their foremost concern and work together when at all possible.

Along those lines, we are willing to register and define almost anything. In addition to the areas listed below, we are willing to ''open up'' other parts of DCE by adding new RPC PDU types, additional threads API's, and so on.

In general, we can work in two ways. First, we can act as a semi-formal registry by issuing updates to this document. In this case requestors will need to provide descriptions of the semantics associated with the value, so that other implementors can provide similar functionality and/or maintain interoperability. Second, we can ''mark off'' areas and guarantee that OSF DCE will never use certain values. In this case implementors are free to use any such values, subject to the risk of ''bumping into'' another implementor's use of the same value. (Values in this group can be useful for prototyping or dedicated enterprise installations.)

Request should be made by sending email to `dce-registry@osf.org` where they will be handled on a case-by-case basis.

Updates to this document will be issued as needed. To get the latest draft version, send email to `dce-registry@osf.org`.

## 2. CORE DCE CHANGES

This section documents new values defined for DCE.

### 2.1. Protocol Sequences

Three new protocol sequences are defined. This updates Appendices B and I of [RPC AES].

(a) `ncacn_at_dsp`: Connection-oriented, Appletalk NBP-style addresses, Appletalk's data stream protocol.

(b) `ncadg_at_ddp`: Connectionless, Appletalk NBP-style addresses, Appletalk's datagram delivery protocol.

(c) `ncadg_nb`: Connectionless, NetBios (over all available protocols).

The corresponding protocol tower identifiers are as follows:

```
at      0x18
dsp     0x16
ddp     0x17
nb      0x19
```

The `dsp` or `ddp` protocol occupies the third floor of a DCE RPC tower. The left side of the floor is the protocol identifier (0x16 or 0x17) and the right side is a counted ASCII string naming the endpoint (or object). The `at` protocol occupies the fourth floor of a DCE RPC tower. The left side of the floor is the protocol identifier (0x18) and the right side is a counted ASCII string containing an NBP-style name in the form `name@zone`; the zone named * is used to indicate the local zone if no zone is specified.

These two floors are converted to an Appletalk name by concatenating the following elements: `DceDspRpc` or `DceDdpRpc`, a space, the `endpoint`, a colon, and the `name@zone`. The well-known endpoint (or object name) of the endpoint mapper is `Endpoint Mapper`.

### 2.2. CDS Attribute Names

A new attribute is defined and used by the DCE 1.1 release. This updates Appendix J of [RPC AES].

```
RPC_Codesets        1.3.22.1.1.5
                    {iso(1) identified-org(3)
                    osf(22) dce(1) rpc(1)
                    RPC_Codesets(5)}
```

### 2.3. Other ISO OID's

For the sake of completeness, we document the following additional OID's also used or reserved by DCE.

```
RPC                 1.3.22.1.1
                    {iso(1) identified-org(3)
                    osf(22) dce(1) rpc(1)}

GDS                 1.3.22.1.2
                    {iso(1) identified-org(3)
                    osf(22) dce(1) gds(2)}

CDS                 1.3.22.1.3
                    {iso(1) identified-org(3)
                    osf(22) dce(1) cds(3)}

Security            1.3.22.1.5
                    {iso(1) identified-org(3)
                    osf(22) dce(1) sec(5)}

SEC_Replica         1.3.22.1.5.1
                    {iso(1) identified-org(3)
                    osf(22) dce(1) sec(5) SEC_Replica(1)}

Federated Naming    1.3.22.1.6
                    {iso(1) identified-org(3)
                    osf(22) dce(1) xfn(6)}
```

### 2.4. New RPC Fault Codes

Two new fault codes are defined. This updates the table in section N.2 of Appendix N of [RPC AES]:

```
const long nca_s_fault_object_not_found = 0x1C000024;
const long nca_s_fault_no_client_stub   = 0x1C000025;
```

A server sends the `nca_s_fault_object_not_found` code when the client has attempted to bind to an existing object (for example by CDS name) but the object was not known to the server. A server sends the `nca_s_fault_no_client_stub` code when a required client stub module is not linked into the executable (e.g., when a server stub or application code attempts to make an RPC).

### 2.5. Serviceability Components

The full list of the secure core 1.1 serviceability components in the DCE 1.1 release does not appear to be defined anywhere. They are as follows:

```
aud    Auditing
cds    CDS
cfg    DCE Configuration
```

```
csr    Code Set Registry
dcp    dcecp
dhd    dced
dts    DTS
gds    GDS
gss    GSSAPI
idl    IDL compiler
lib    DCE utilities libraries
rpc    RPC
sad    Security administration tools
sec    Security runtime and server
smp    Sample code for DCE documentation
svc    Serviceability and messaging
tcl    TCL interpreter
thd    Threads
uid    uuidgen
```

The DFS components are not listed.

### 2.5.1. New serviceability components

A new serviceability component is defined.

```
pkc    Public-key certification code
```

In addition, OSF guarantees that it will never define a serviceability component that starts with the two-letter sequence `qz`.

## 3. ISV STATUS CODE ASSIGNMENTS

DCE 1.1 includes a public API and mechanism for interoperable status codes and unique message identifiers [RFC 24.2]. In order to obtain a block of status codes, send email to `dce-registry@osf.org` including the product name, and the text of the first message. This text is used by `dce_error_inq_text` to identify the software issuing the status code.

In addition, OSF guarantees to never assign component codes less then 50.

No ISV status codes have been registered yet.

## REFERENCES

[RPC AES] Open Software Foundation, *OSF DCE Application Environment Specification/Distributed Computing — Remote Procedure Call (RPC)*, November 10, 1993.

[RFC 24.2] R. Salz, DCE-RFC 24.2, ‘‘Making the DCE 1.1 Serviceability and Message API’s Public’’, April, 1993.

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