Network Working Group
INTERNET-DRAFT

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Counting the Directory Information Tree (OSI-DS 30)

Status of this Memo

Pilot Directory Services are growing rapidly. It is useful to know how much information is available in the directory. This is important for management purposes, both to understand the level of growth, and to provide publicity as to what is there. Current counting techniques are both ad hoc and implementation specific.

A more general technique is proposed here. It is likely that such estimates will always be on the low side, for example because an organisation is not prepared to indicate the number of entries is has. However, it is useful to be able to estimate the size of the Directory Information Tree. This specification defines a means for doing this.

This draft document will be submitted to the RFC editor as a protocol specification. Distribution of this memo is unlimited. Please send comments to the author or to the discussion group `<osi-ds@CS.UCL.AC.UK>`.

```
SingleLevelCount ATTRIBUTE
        WITH SYNTAX integerSyntax


SubtreeCount ATTRIBUTE
        WITH SYNTAX integerSyntax


TypedSubtreeCount ATTRIBUTE
        WITH SYNTAX  SET {
                objectClass OBJECT IDENTIFIER,
                count INTEGER }
```

Figure 1: Attributes for DIT Size

1 Attribute Definitions

Attributes are defined to indicate the size of the DIT Figure 1. These attributes are associated with every non-leaf node in the DIT. The attributes have the following semantics.

SingleLevelCount The number of entries at the level below.

SubtreeCount The number of entries in the entire subtree.

TypedSubtreeCount The number of entries, divided by object class. The list of object classes provided is up to the node manager. Where appropriate, it should contain at least: Person; Organisation; Organisational Unit; Application Entity; Locality; DSA; Role.

2 Count Maintenance

There are several means of maintaining the counts.

2.1 Manual

The manager inserts the counts manually. This is appropriate for small organisations, or in cases where there is no automatic support.

2.2 Manager Script

A simple script can be written for each level to count at the level below, and to write the appropriate values in a node. In an organisation, this could be run for each department, and then again to total the departments. This procedure could be run each night to keep totals up to date.

2.3 Automatic by DSA

These counts could be maintained by DSAs with control over the data at the correct level. This would enable counts to be updated very frequently, and to propagate upwards.

It might be possible one day to have a steadily changing monitor, indicating the total number of entries in the DIT.

3 Security Considerations

Security considerations are not discussed in this Internet Draft.

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