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## X.500 Shadowing Profiles

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### Abstract

This document describes several shadowing profiles for X.525|ISO/IEC 9594-9 The Directory: Replication. These profiles are needed in order for the Internet operational X.500 service to migrate from Quipu replication to ISO standard replication.

### 1.Introduction

The Internet Operational X.500 Service is currently based on Quipu replication [RFC 1276]. It is the intention to move to products conforming to the 1993 edition of the X.500 standard [X.500 93] as soon as practicable. Whilst it is recognised that the 1993 shadowing protocol is very comprehensive and fulfils all the operational requirements of the Internet X.500 directory service, it is also recognised that manufacturers are only gradually implementing the full complexity of the protocol in their products. Profiling is a recognised method of determining which parts of a standard to implement first and which parts to leave until later. The profiles specified in this document are a guide to X.500 product suppliers to indicate which parts of the shadowing protocol are most important to the Internet community.

Shadowing profiles are being produced by EWOS [EWOS], that should eventually be published as

ISPs. The relevant EWOS profiles are referenced in this document, and are not reproduced here.

## **2 The Profiles**

### **2.1 Full Naming Context**

The unit of replication is the full naming context, with no attribute selection and full subordinate knowledge. This is equivalent to EWOS profile subset A.

Rationale. This is the most useful unit of replication in a public directory service.

### **2.2 Context Prefix Entry**

The unit of replication consists of the single context prefix entry and all its subentries. (Issue. Can we relax the "all subentries" requirement.) There is no attribute selection and no knowledge selection.

Rationale. This is needed for performing 1 level Searches in the superior DSA e.g. when managing the root naming context.

Note. There is no EWOS profile exactly the same as this, but subset C (chopped subtrees) in its simplest form can produce the same unit of replication. However, subset C is much more general and consequently more complex to implement. It may thus take much longer for it to appear in products.

### **2.3 Single Entry (Spot Shadowing)**

The unit of replication is a single entry from anywhere within a naming context. There is no attribute selection and no knowledge selection. Relevant administrative point information and subentries shall also be supplied.

Rationale. This is needed to maintain backwards compatibility with Quipu replication, and may still be useful for example, for shadowing aliased objects.

Issue. Does the rationale still hold true?

Note. This is a more general case of profile 2.2, but is still much simpler than EWOS profile subset C.

### **2.4 Refined Naming Context**

The Unit of Replication is the full naming context, but subtree refinement based on the selection of one or more object classes may be performed. Attribute selection may also be performed.

Rationale. Subtree refinement allows the consumer to select specific object classes e.g. organisationalPerson or index entries. Attribute selection allows the consumer to select specific attributes. In this way unwanted entries and attributes can be filtered out.

Issue. Is extended knowledge useful in this situation or not?

Note. This is similar to EWOS profile subset F, but simpler, in that subtrees or chopped subtrees are not allowed, and extended knowledge need not to be replicated.

## 1. Other Profiles

The EWOS document contains six profiles that are:

Subset A - whole naming contexts, all attributes and subordinate knowledge references

Subset B - complete subtrees within a naming context, all attributes and subordinate knowledge references

Subset C - chopped subtrees, all attributes and extended knowledge

Subset D - complete subtrees, selected attributes and all subordinate knowledge references

Subset E - chopped subtrees, selected attributes and extended knowledge

Subset F - refined (and optionally chopped) subtrees, selected attributes and all or extended knowledge.

Since subset F is really "anything goes", once this profile has been implemented, it will encompass all other profiles.

## 3 Security Considerations

Security considerations are not discussed in this memo.

## 4 Acknowledgements

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## 5 References

[RFC 1276] Kille, S., "Replication and Distributed Operations extensions to provide an Internet Directory using X.500", UCL, November 1991.

[X.500 93] X.500 | 9594.Part 1 Overview of Concepts, Models and Services

X.501 | 9594.Part 2 Models

X.511 | 9594.Part 3 Abstract Service Definition

X.518 | 9594.Part 4 Procedures for Distributed Operations

X.519 | 9594.Part 5 Protocol Specifications

X.520 | 9594.Part 6 Selected Attribute Types

X.521 | 9594.Part 7 Selected Object Classes

X.509 | 9594.Part 8 Authentication Framework

[EWOS] ISO/IEC ISP xxxx - International Standardized Profile - The Directory - Part 12: ADY53 - Shadowing Subsets, EWOS working draft 5, 12 July 1996

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