                ASN.1 Module Definition for the
              LDAP and X.500 Component Matching Rules

Status of this Memo

   This document specifies an Internet standards track protocol for the
   Internet community, and requests discussion and suggestions for
   improvements. Please refer to the current edition of the "Internet
   Official Protocol Standards" (STD 1) for the standardization state
   and status of this protocol. Distribution of this memo is unlimited.

Abstract

   This document updates the specification of the component matching
   rules for Lightweight Directory Access Protocol (LDAP) and X.500
   directories (RFC3687) by collecting the Abstract Syntax Notation One
   (ASN.1) definitions of the component matching rules into an
   appropriately identified ASN.1 module so that other specifications
   may reference the component matching rule definitions from within
   their own ASN.1 modules.

1. Introduction

   The structure or data type of data held in an attribute of a
   Lightweight Directory Access Protocol (LDAP) [LDAP] or X.500 [X500]
   directory is described by the attribute's syntax. Attribute syntaxes
   range from simple data types, such as text string, integer, or
   boolean, to complex data types, for example, the syntaxes of the
   directory schema operational attributes. RFC 3687 [CMR] defines a
   generic way of matching user selected components in a directory
   attribute value of any arbitrarily complex attribute syntax.

   This document updates RFC 3687 by collecting the Abstract Syntax
   Notation One (ASN.1) [ASN1] definitions of RFC 3687 into an
   appropriately identified ASN.1 module so that other specifications
   may reference these definitions from within their own ASN.1 modules.

2. Module Definition for Component Matching

```
   ComponentMatching
       {iso(1) 2 36 79672281 xed(3) module(0) component-matching(4)}

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   -- this ASN.1 module is part of RFC 3727; see the RFC itself
   -- for full legal notices.

   DEFINITIONS
   EXPLICIT TAGS
   EXTENSIBILITY IMPLIED ::= BEGIN

   IMPORTS
       MATCHING-RULE,
       RelativeDistinguishedName
           FROM InformationFramework
               {joint-iso-itu-t ds(5) module(1)
                   informationFramework(1) 4} ;

   ComponentAssertion ::= SEQUENCE {
       component        ComponentReference (SIZE(1..MAX)) OPTIONAL,
       useDefaultValues  BOOLEAN DEFAULT TRUE,
       rule             MATCHING-RULE.&id,
       value            MATCHING-RULE.&AssertionType }

   ComponentReference ::= UTF8String

   ComponentFilter ::= CHOICE {
       item  [0] ComponentAssertion,
       and   [1] SEQUENCE OF ComponentFilter,
       or    [2] SEQUENCE OF ComponentFilter,
       not   [3] ComponentFilter }

   componentFilterMatch MATCHING-RULE ::= {
       SYNTAX  ComponentFilter
       ID      { 1 2 36 79672281 1 13 2 } }

   allComponentsMatch MATCHING-RULE ::= {
       ID      { 1 2 36 79672281 1 13 6 } }

   directoryComponentsMatch MATCHING-RULE ::= {
       ID      { 1 2 36 79672281 1 13 7 } }


   -- Additional Useful Matching Rules --

   rdnMatch MATCHING-RULE ::= {
```

```
       SYNTAX  RelativeDistinguishedName
       ID      { 1 2 36 79672281 1 13 3 } }

   presentMatch MATCHING-RULE ::= {
       SYNTAX  NULL
       ID      { 1 2 36 79672281 1 13 5 } }

   END
```

   The InformationFramework ASN.1 module from which the MATCHING-RULE
   and RelativeDistinguishedName definitions are imported is defined in
   X.501 [X501].

   The object identifiers used in this document have been assigned for
   use in specifying the component matching rules by Adacel
   Technologies, under an arc assigned to Adacel by Standards Australia.

3. Security Considerations

   This document collects together the ASN.1 definitions of the
   component matching rules into an ASN.1 module, but does not modify
   those definitions in any way. See RFC 3687 [CMR] for the security
   considerations of using the component matching rules.

4. References

4.1. Normative References

   [CMR]   Legg, S., "Lightweight Directory Access Protocol (LDAP) and
           X.500 Component Matching Rules", RFC 3687, February 2004.

   [X501] ITU-T Recommendation X.501 (1993) | ISO/IEC 9594-2:1994,
           Information Technology - Open Systems Interconnection - The
           Directory: Models

   [ASN1] ITU-T Recommendation X.680 (07/02) | ISO/IEC 8824-1:2002,
           Information technology - Abstract Syntax Notation One
           (ASN.1): Specification of basic notation

4.2. Informative References

   [LDAP] Hodges, J. and R. Morgan, "Lightweight Directory Access
           Protocol (v3): Technical Specification", RFC 3377, September
           2002.

   [X500] ITU-T Recommendation X.500 (1993) | ISO/IEC 9594-1:1994,
           Information Technology - Open Systems Interconnection - The
           Directory: Overview of concepts, models and services

5. Author's Address

   Steven Legg
   Adacel Technologies Ltd.
   250 Bay Street
   Brighton, Victoria 3186
   AUSTRALIA

   Phone: +61 3 8530 7710
   Fax: +61 3 8530 7888
   EMail: steven.legg@adacel.com.au

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