

1.

， ， 3 。

2. ( ， )

ITU-T X.520(1992) ， TTA.CT - X520 。

3.

- 3.1 TTA : TTA.CT - X520
- 3.2 ITU-T : ITU-T X.520(1992)
- 3.3 ITU-R :
- 3.4 ISO : ISO/IEC 9594-6

4.

1	1994. 2. 18	
2	1996. 1. 6	

## Preface

### 1. Summary

This standard defines a number of attribute types which may be useful across a range of applications of the Directory. Attribute types, attribute syntaxes and matching rules are used by a wide variety of applications or are understood and/or used by the Directory itself.

### 2. Relation with other standards

This standard has its origin in the ITU-T X.520(1992) standard as a base standard and is developed as an extension to the TTA.CT-X.520 standard.

### 3. References

- 3.1 TTA Standard : TTA.CT-X.520
- 3.2 ITU-T Recommendations : ITU-T X.520(1992)
- 3.3 ITU-R Recommendations : None
- 3.4 ISO Standards : ISO/IEC 9594-6

### 4. History

Version	Issue Data	Contents
1	1994. 2. 18	Established
2	1996. 1. 6	Revision

1

1. ----- 1

2. ----- 1

3. ----- 1

4. ----- 2

2

5. ----- 2

3

6. ----- 16

4

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-

**The Directory - Selected Attribute Types**

**1**

**1**

3

**2**

- X. 501 - -
- X. 521 - -
- X. 208 - OSI - 1 (ASN. 1)
- E. 123 - /
- E. 146 - ISDN
- F. 1 -
- F. 200 -
- F. 401 - -
- T. 30 -
- T. 61 -
- T. 62 - 4
- X. 121 -

**3**

- a)
- b)
- c)
- d)

4

(1988) “1988”  
 ‘1992 “

2

5.

ASN. 1

```
DirectoryString ::= CHOICE {
    T61String (SIZE (1..maxSize)),
    PrintableString (SIZE (1..maxSize)),
    UNIVERSAL STRING (SIZE (1..maxSize)) }
```

가

### 5.1 (System)

#### 5.1.1 (Knowledge Information)

DSA

가

```
knowledgeInformation ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX DirectoryString {65535}
    EQUALITY MATCHING RULE caseIgnoreMatch
    ID { attributeType 2 } }
```

### 5.2 (Labelling)

#### 5.2.1 (Name)

```

name ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX DirectoryString {65535}
    EQUALITY MATCHING RULE caseIgnoreMatch
    ORDERING MATCHING RULE caseIgnoreOrderingMatch
    SUBSTRING MATCHING RULE caseIgnoreSubstringsMatch
    ID { attributeType ... } }

```

### 5.2.2 (Common Name)

( ) ( ) ,

Professor, Sir, Lord), first name, middle name, last name, ( : M, Ms, Dr, ( : Jr),  
award( : QC)

```

:
CN = "M. Robin Lachlan MLeod BSc(Hons) CEng MEE"
CN = "Divisional Coordination Committee"
CN = "High Speed Modem"

```

first name middle name , "William" "Bill"

```

commonName ATTRIBUTE ::= {
    SUBTYPE OF name
    WITH ATTRIBUTE SYNTAX DirectoryString {ub-common-name}
    ID { attributeType 3 } }

```

### 5.2.3 (Surname)

, "MLeod",

```

surname ATTRIBUTE ::= {
    SUBTYPE OF name
    WITH ATTRIBUTE SYNTAX DirectoryString {ub-surname}
    ID { attributeType 4 } }

```

### 5.2.4 (Serial Number)

가

```
serialNumber ATTRIBUTE ::= {  
    WITH ATTRIBUTE SYNTAX PrintableString (SIZE (1..ub-serialNumber))  
    EQUALITY MATCHING RULE caseIgnoreMatch  
    ORDERING MATCHING RULE caseIgnoreOrderingmatch  
    SUBSTRING MATCHING RULE caseIgnoreSubstringsMatch  
    ID { attributeType 5 } }
```

#### 5.2.5 DN (DN Qualifier)

DN DSA

```
dnQualifier ATTRIBUTE ::= {  
    WITH ATTRIBUTE SYNTAX PrintableString  
    EQUALITY MATCHING RULE caseIgnoreMatch  
    ORDERING MATCHING RULE caseIgnoreOrderingmatch  
    SUBSTRING MATCHING RULE caseIgnoreSubstringsMatch  
    ID { attributeType 50 } }
```

### 5.3 (Geographical)

#### 5.3.1 (Country Name)

가

ISO 3166

caseIgnoreSatringSyntax

```
countryName ATTRIBUTE ::= {  
    SUBTYPE OF name  
    WITH ATTRIBUTE SYNTAX PrintableString ((SIZE (2))  
    ID { attributeType 6 } }
```

#### 5.3.2 (Locality Name)

가

, "Edinburgh" ,

```
localityName ATTRIBUTE ::= {  
    SUBTYPE OF name
```



## (Organizational)

### 5.4.1 (Organization Name)

, "Scottish Telecommunication plc" ,

```
organizationName ATTRIBUTE ::= {  
    SUBTYPE OF      name  
    WITH ATTRIBUTE SYNTAX DirectoryString {ub-organization-name}  
    ID               { attributeType 10 } }
```

```
collectiveOrganizationName ATTRIBUTE ::= {  
    SUBTYPE OF      organizationName  
    COLLECTIVE      TRUE  
    ID               { attributeType 101 } }
```

### 5.4.2 (Organizational Unit Name)

가

, "Technology Division" ,  
"TD"가

:  
O = Scottel ", OU = "TD"

```
organizationalUnitName ATTRIBUTE ::= {  
    SUBTYPE OF      name  
    WITH ATTRIBUTE SYNTAX DirectoryString  
                        {ub-organizational-unit-name }  
    ID               { attributeType 11 } }
```

```
collectiveOrganizationalUnitName ATTRIBUTE ::= {  
    SUBTYPE OF      organizationalUnitName
```

COLLECTIVE	TRUE
ID	{ attributeType 111 } }

### 5.4.3 (Title)

:  
T = "Manager, Distributed Applications"

```
title ATTRIBUTE ::= {
    SUBTYPE OF          name
    WITH ATTRIBUTE SYNTAX DirectoryString {ub-title}
    ID                   { attributeType 12 } }
```

### 5.5 (Explanatory)

#### 5.5.1 (Description)

Interest " " "Standards

```
description ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX DirectoryString {ub-title}
    EQUALITY MATCHING RULE caseIgnoreMatch
    ORDERING MATCHING RULE caseIgnoreOrderingmatch
    SUBSTRING MATCHING RULE caseIgnoreSubstringsMatch
    ID                   { attributeType 13 } }
```

#### 5.5.2 (Search Guide)

가

가

```
searchGuide ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX Guide
    ID                   { attributeType 14 } }
```

```

Guide ::= SET {
    objectClasee      [0] OBJECT-CLASS OPTIONAL,
    criteria          [1] Criteria }

```

```

Criteria ::= CHOICE {
    type              [0] CriterialItem,
    and               [1] SET OF Criteria,
    or                [2] SET OF Criteria,
    not               [3] Criteria }

```

```

CriterialItem ::= CHOICE {
    equality           [0] AttributeType,
    substrings        [1] AttributeType,
    greaterOrEqual    [2] AttributeType,
    lessOrEqual       [3] AttributeType,
    approximateMatch  [4] AttributeType }

```

```

:
.

```

```

residential-person-guide      Guide ::=
    objectClass      residentialPerson,
    criteria          and {
                        type    substrings      commonName,
                        type    substrings      streetAddress }

```

1. .

```

intermediate-filter      Filter ::=
    and {
        item    substrings {
                type    commonName,
                strings { any T61String "Dubois" },
        item    substrings {
                type    streetAddress,
                strings { any T61String "Hugo" } } }

```

2. .

```

residential-person-filter      Filter ::=
    and {
        item    equality {
                object Class,
                OBJECT-CLASS      residentialPerson },
        intermediateFilter }

```

### 5.5.3 (Enhanced Search Guide)

가

```
EnhancedSearchGuide ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX EnhancedGuide
    ID { attributeType 51 } }
```

```
EnhancedGuide ::= SEQUENCE {
    objectClass     [0] OBJECT-CLASS,
    criteria         [1] Criteria
    subset           [2] INTEGER {baseObject(0), oneLevel(1),
                                wholeSubtree(2)} DEFAULT oneLevel }
```

#### 5.5.4 (Business Category)

```
businessCategory ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX DirectoryString {ub-business-category}
    EQUALITY MATCHING RULE caseIgnoreMatch
    ORDERING MATCHING RULE caseIgnoreOrderingmatch
    SUBSTRING MATCHING RULE caseIgnoreSubstringsMatch
    ID { attributeType 15 } }
```

#### 5.6 (Postal Addressing)

##### 5.6.1 (Postal Address)

F.401 MS O/R 1  
가 30 6 가

```
postalAddress ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX PostalAddress
    EQUALITY MATCHING RULE caseIgnoreListMatch
    SUBSTRING MATCHING RULE caseIgnoreSubstringsMatch
    ID { attributeType 16 } }
```

```
PostalAddress ::= SEQUENCE (1..ub-postal-line) OF
    DirectoryString {ub-postal-string}
```

```
collectivePostalAddress ATTRIBUTE ::= {
    SUBTYPE OF                postalAddress
    COLLECTIVE                 TRUE
    ID                         { attributeType 161 } }
```

### 5.6.2 (Postal Code)

가

```
postalCode ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX    DirectoryString {ub-postal-code}
    EQUALITY MATCHING RULE   caseIgnoreMatch
    ORDERING MATCHING RULE   caseIgnoreOrderingMatch
    SUBSTRING MATCHING RULE  caseIgnoreSubstringsMatch
    ID                       { attributeType 17 } }
```

```
collectivePostalCode ATTRIBUTE ::= {
    SUBTYPE OF                postalCode
    COLLECTIVE                 TRUE
    ID                         { attributeType 171 } }
```

### 5.6.3 (Post Office Box)

가

```
postOfficeBox ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX    DirectoryString {ub-post-office-box}
    EQUALITY MATCHING RULE   caseIgnoreMatch
    ORDERING MATCHING RULE   caseIgnoreOrderingMatch
    SUBSTRING MATCHING RULE  caseIgnoreSubstringsMatch
    ID                       { attributeType 18 } }
```

```
collectivePostOfficeBox ATTRIBUTE ::= {
    SUBTYPE OF                postOfficeBox
    COLLECTIVE                 TRUE
    ID                         { attributeType 181 } }
```

### 5.6.4 (Physical Delivery Office Name)

```

physicalDeliveryOfficeName ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX  DirectoryString {ub-physical-office-name}
    EQUALITY MATCHING RULE  caseIgnoreMatch
    SUBSTRING MATCHING RULE caseIgnoreSubstringsMatch
    ID                      { attributeType 19 } }

```

```

collectivePhysicalDeliveryOfficeName ATTRIBUTE ::= {
    SUBTYPE OF              physicalDeliveryOfficeName
    COLLECTIVE              TRUE
    ID                      { attributeType 191 } }

```

## 5.7 (Telecommunications Addressing)

### 5.7.1 (Telephone Number)

E. 123

+44 582 10101

```

telephoneNumber ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX  PrintableString {ub-telephone-number}
    EQUALITY MATCHING RULE  telephoneNumberMatch
    SUBSTRING MATCHING RULE telephoneNumberSubstringsMatch
    ID                      { attributeType 20 } }

```

```

collectiveTelephoneNumber ATTRIBUTE ::= {
    SUBTYPE OF              telephoneNumber
    COLLECTIVE              TRUE
    ID                      { attributeType 201 } }

```

### 5.7.2 (Telex Number)

```

telexNumber ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX  TelexNumber

```

EQUALITY MATCHING RULE caseExactMatch  
 SUBSTRING MATCHING RULE caseTelephoneNumberSubstringsMatch  
 ID { attributeType 13 }

TelexNumber ::= SEQUENCE {  
     telexNumber PrintableString (SIZE(1..ub-telex-number)),  
     countryCode PrintableString (SIZE(1..ub-country-code)),  
     answerback PrintableString (SIZE(1..ub-answerback)) }

collectiveTelexNumber ATTRIBUTE ::= {  
     SUBTYPE OF telexNumber  
     COLLECTIVE TRUE  
     ID { attributeType 211 } }

### 5.7.3 (Teletex Terminal Identifier)

(

F.200 , T.62

teletexTerminalIdentifier ATTRIBUTE ::= {  
     WITH ATTRIBUTE SYNTAX TelexTerminalIdentifier  
     ID { attributeType 22 } }

TeletexTerminalIdentifier ::= SEQUENCE {  
     teletexTerminal PrintableString  
         ((SIZE(1..ub-teletex-terminal-id)),  
     parameters TelexNonBasicParameters OPTIONAL }

collectiveTeletexTerminalIdentifier ATTRIBUTE ::= {  
     SUBTYPE OF teletexTerminalIdentifier  
     COLLECTIVE TRUE  
     ID { attributeType 221 } }

### 5.7.4 (Facsimile Telephone Number)

(

E.123 T.30

, +44 582 10101 ,

facsimileTelephoneNumber ATTRIBUTE ::= {  
     WITH ATTRIBUTE SYNTAX FacsimileTelephoneNumber

ID { attributeType 23 } }

FacsimileTelephoneNumber ::= SEQUENCE {  
 telephoneNumber PrintableString  
 ((SIZE(1..ub-telephone-number)),  
 parameters FacsimileNonBasicParameters OPTIONAL }}

collectiveFacsimileTelephoneNumber ATTRIBUTE ::= {  
 SUBTYPE OF facsimileTelephoneNumber  
 COLLECTIVE TRUE  
 ID { attributeType 231 } }

#### 5.7.5 X.121 (X.121 Address)

X.121 X.121

numericStringSyntax

x121Address ATTRIBUTE ::= {  
 WITH ATTRIBUTE SYNTAX NumericString ((SIZE (1..ub-x121-address))  
 EQUALITY MATCHING RULE caseExactMatch  
 SUBSTRING MATCHING RULE caseExactSubstringsMatch  
 ID { attributeType 24 } }

#### 5.7.6 ISDN (International ISDN Number)

ISDN ISDN

ISDN E.164 ISDN

internationalISDNNumber ATTRIBUTE ::= {  
 WITH ATTRIBUTE SYNTAX NumericString  
 ((SIZE (1..ub-international-isdn-number))  
 EQUALITY MATCHING RULE caseExactMatch  
 SUBSTRING MATCHING RULE caseExactSubstringsMatch  
 ID { attributeType 25 } }

ISDN ISDN

collectiveInternationalISDNNumber ATTRIBUTE ::= {  
 SUBTYPE OF internationalISDNNumber  
 COLLECTIVE TRUE  
 ID { attributeType 251 } }

#### 5.7.7 (Registered Address)

memonic

memonic 가 , (F.1 )



```

registeredAddress ATTRIBUTE ::= {
    SUBTYPE OF          postalAddress
    WITH ATTRIBUTE SYNTAX postalAddress
    ID                  { attributeType 26 } }

```

### 5.7.8 (Destination Indicator)

(F.1 F.3 )

```

destinationIndicator ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX PrintableString
                                (SIZE (1..ub-destination-indicator))
    EQUALITY MATCHING RULE caseIgnoreMatch
    SUBSTRING MATCHING RULE caseIgnoreSubstringsmatch
    ID                  { attributeType 27 } }

                                caseIgnoreStringSyntax

```

## 5.8 (Preferences)

### 5.8.1 (Preferred Delivery Method)

```

preferredDeliveryMethod ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX SEQUENCE OF INTEGER {
        any-delivery-method      (0),
        mhs-delivery-method      (1),
        physical-delivery-method (2),
        telex-delivery           (3),
        teletex-delivery         (4),
        g3-facsimile-delivery     (5),
        g4-facsimile-delivery     (6),
        ia5-terminal-delivery     (7),
        videotex-delivery        (8),
        telephone-delivery       (9) }
    SINGLE VALUE              TRUE
    ID                        { attributeType 28 }

```

## 5.9 OSI (OSI Application)

OSI

### 5.9.1 (Presentation Address)

```
PresentationAddress ::= SEQUENCE {
    pSelector      [0] OCTET STRING OPTIONAL,
    sSelector      [1] OCTET STRING OPTIONAL,
    tSelector      [2] OCTET STRING OPTIONAL,
    nAddress       [3] SET SIZE(1..MAX) OF OCTET STRING }
```

nAddress가 selector가

### 5.9.2 (Supported Application Context) (OSI )가

```
supportedApplicationContext ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX OBJECT IDENTIFIER
    EQUALITY MATCHING RULE objectIdentifierMatch
    ID { attributeType 30 } }
```

### 5.9.3 (Protocol Information)

nAddress protocol

```
protocolInformation ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX ProtocolInformation
    ID { attributeType 52 } }
```

```
ProtocolInformation ::= SEQUENCE {
    nAddress      OCTET STRING,
    protocol      SET OF OBJECT IDENTIFIER }
```

## 5.10 (Relational)

### 5.10.1 (Distinguished Name)

```
distinguishedName ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX DistinguishedName
    EQUALITY MATCHING RULE distinguishedMatch
    ID { attributeType ... } }
```

### 5.10.2 (Member)

```
member ATTRIBUTE ::= {  
    SUBTYPE OF distinguishedName  
    ID { attributeType 31 } }
```

### 5.10.3 (Owner)

( ) , 가 .

```
owner ATTRIBUTE ::= {  
    SUBTYPE OF distinguishedName  
    ID { attributeType 32 } }
```

### 5.10.4 (Role Occupant)

```
roleOccupant ATTRIBUTE ::= {  
    SUBTYPE OF distinguishedName  
    ID { attributeType 33 } }
```

### 5.10.5 (See Also)

```
seeAlso ATTRIBUTE ::= {  
    SUBTYPE OF distinguishedName  
    ID { attributeType 34 } }
```

## 6.1

### 6.1.1 (Undefined)

ANY

ATTRIBUTE

```
undefined ATTRIBUTE-SYNTAX ::= {  
    SYNTAX ANY  
    ID      { attributeSyntax 0 } }
```

### 6.1.2 (Distinguished Name)

```
distinguishedNameSyntax ATTRIBUTE-SYNTAX ::= {  
    SYNTAX DistinguishedName  
    ID      { attributeSyntax 1 } }
```

### 6.1.3 (Object Identifier)

```
objectIdIdentifierSyntax ATTRIBUTE-SYNTAX ::= {  
    SYNTAX OBJECT IDENTIFIER  
    ID      { attributeSyntax 2 } }
```

## 6.2

### 6.2.1 (Case Exact String)

, "DUNDEE" "Dundee"가

```
caseExactStringSyntax ATTRIBUTE-SYNTAX ::= {  
    SYNTAX CHOICE {T61String, PrintableString}  
    ID      { attributeSyntax 3 } }
```

### 6.2.2 (Case Ignore String)

, "DUNDEE" "Dundee"가

```
caseIgnoreStringSyntax ATTRIBUTE-SYNTAX ::= {  
    SYNTAX CHOICE {T61String, PrintableString}  
    ID      { attributeSyntax 4 } }
```

### 6.2.3 가 (Printable String) 가

```
printableStringSyntax ATTRIBUTE-SYNTAX ::= {  
    STNTAX PrintableString  
    ID { attributeSyntax 5 } }
```

### 6.2.4 (Numeric String)

```
numericStringSyntax ATTRIBUTE-SYNTAX ::= {  
    STNTAX NumericString  
    ID { attributeSyntax 6 } }
```

### 6.2.5 (Case Ignore List)

가

가 . ( ,  
( §6.1.3) 가 .

```
caseIgnoreListSyntax ATTRIBUTE-SYNTAX ::= {  
    STNTAX SEQUENCE OF CHOICE {T61String, PrintableString}  
    ID { attributeSyntax 7 } }
```

## 6.3

### 6.3.1 (Boolean)

```
booleanSyntax ATTRIBUTE-SYNTAX ::= {  
    STNTAX BOOLEAN  
    ID { attributeSyntax 8 } }
```

### 6.3.2 (Integer)

```
integerSyntax ATTRIBUTE-SYNTAX ::= {  
    STNTAX INTEGER  
    ID { attributeSyntax 9 } }
```

### 6.3.3 (Octet String)

```

octetStringSyntax ATTRIBUTE-SYNTAX ::= {
    SYNTAX OCTET STRING
    ID      { attributeSyntax 10 } }

```

#### 6.3.4 UTC (UTC Time)

UTC

```

uTCTimeSyntax ATTRIBUTE-SYNTAX ::= {
    SYNTAX UTCTime
    ID      { attributeSyntax 11 } }

```

#### 6.3.5 (Telephone Number)

```

telephoneNumberSyntax ATTRIBUTE-SYNTAX ::= {
    SYNTAX PrintableString (SIZE(1..ub-telephone-number))
    ID      { attributeSyntax 12 } }

```

## 4

## 7

- objectIdentifierMatch, distinguishedNameMatch,  
, X.501

### 7.1

7.1.1-7.1.11 가 .

- ( 가 )
- ( 가 )
- ( )

#### 7.1.1 (Case Ignore Match)

DirectoryString

```

caseIgnoreMatch MATCHING-RULE ::= {
    SYNTAX DirectoryString {ub-match}
    ID      { matchingRule 21 } }

```

, 가 가

ASN. 1 , 가

### 7.1.2 (Case Ignore Ordering Match)

DirectoryString

```
caseIgnoreOrderingMatch MATCHING-RULE ::= {  
  SYNTAX DirectoryString {ub-match}  
  ID      { matchingRule 22 } }
```

가

TRUE

ASN. 1 , 가

### 7.1.3 (Case Ignore Substrings Match)

DirectoryString

```
caseIgnoreSubstringsMatch MATCHING-RULE ::= {  
  SYNTAX SubstringAssertion  
  ID      { matchingRule 23 } }
```

```
SubstringAssertion ::= SEQUENCE OF CHOICE {  
  initial [0] DirectoryString {ub-match},  
  any     [1] DirectoryString {ub-match},  
  final   [2] DirectoryString {ub-match} }  
-- at most one initial and one final component
```

initial , final  
any가

가

ASN. 1 , 가

### 7.1.4 (Case Exact Match)

DirectoryString

```

caseExactMatch MATCHING-RULE ::= {
    SYNTAX DirectoryString {ub-match}
    ID      { matchingRule 24 } }

```

가 , caseIgnoreMatch .

#### 7.1.5 (Case Exact Ordering Match)

DirectoryString .

```

caseExactOrderingMatch MATCHING-RULE ::= {
    SYNTAX DirectoryString {ub-match}
    ID      { matchingRule 25 } }

```

가 , caseIgnoreOrderingMatch .

#### 7.1.6 (Case Exact Substrings Match)

DirectoryString

```

caseExactSubstringsMatch MATCHING-RULE ::= {
    SYNTAX SubstringAssertion
    ID      { matchingRule 26 } }

```

가 , caseIgnoreSubstringsMatch .

#### 7.1.7 (Numeric String Match)

```

numericStringMatch MATCHING-RULE ::= {
    SYNTAX NumericString
    ID      { matchingRule 27 } }

```

가 , caseIgnoreMatch .

#### 7.1.8 (Numeric String Ordering Match)

```

numericStringOrderingMatch MATCHING-RULE ::= {
    SYNTAX NumericString
    ID      { matchingRule 28 } }

```

가 , caseIgnoreOrderingMatch .

#### 7.1.9 (Numeric String Substrings Match)



```
numericStringSubstringsMatch MATCHING-RULE ::= {
    SYNTAX SubstringAssertion
    ID      { matchingRule 29 } }
```

가 , caseIgnoreSubstringsMatch .

#### 7.1.10 (Case Ignore List Match)

DirectoryString

.

```
caseIgnoreListMatch MATCHING-RULE ::= {
    SYNTAX SEQUENCE OF DirectoryString {ub-match}
    ID      { matchingRule 30 } }
```

가 (caseIgnoreMatch) , TRUE .

#### 7.1.11 (Case Ignore List Substrings Match)

가 DirectoryString .

```
caseIgnoreListSubstringsMatch MATCHING-RULE ::= {
    SYNTAX SubstringAssertion
    ID      { matchingRule 31 } }
```

(caseIgnoreSubstrings

Match) .

### 7.2

#### 7.2.1 (Boolean Match)

.

```
booleanMatch MATCHING-RULE ::= {
    SYNTAX BOOLEAN
    ID      { matchingRule 32 } }
```

TRUE FALSE , TRUE .

#### 7.2.2 (Integer Match)

.

```
integerMatch MATCHING-RULE ::= {
    SYNTAX INTEGER
    ID      { matchingRule 33 } }
```

, TRUE .

### 7.2.3 (Integer Ordering Match)

```
integerMatch MATCHING-RULE ::= {  
    SYNTAX INTEGER  
    ID      { matchingRule 33 } }
```

가 , TRUE .

### 7.2.4 (Octet String Match)

```
octetStringMatch MATCHING-RULE ::= {  
    SYNTAX OCTET STRING  
    ID      { matchingRule 35 } }
```

가 가 , TRUE .

### 7.2.5 (Octet String Ordering Match)

```
octetStringOrderingMatch MATCHING-RULE ::= {  
    SYNTAX OCTET STRING  
    ID      { matchingRule 36 } }
```

LSB (least significant bit) , MSB (most significant bit)  
가 , 가  
'0' 가 '1' 가 ,

### 7.2.6 (Octet String Substrings Match)

```
octetStringSubstringsMatch MATCHING-RULE ::= {  
    SYNTAX OctetSubstringAssertion  
    ID      { matchingRule 37 } }
```

```
SubstringAssertion ::= SEQUENCE OF CHOICE {  
    initial [0] OCTET STRING {ub-match},  
    any     [1] OCTET STRING {ub-match},  
    final   [2] OCTET STRING {ub-match} }  
-- at most one initial and one final component
```

, caseIgnoreSubstringsMatch 가

#### 7.2.7 UTC (UTC Time Match)

UTC UTC UTC

```
uTCTimeMatch MATCHING-RULE ::= {  
    SYNTAX SubstringAssertion  
    ID      { matchingRule 38 } }
```

, TRUE . UTC 가 , 0 가 .

#### 7.2.8 UTC (UTC Time Ordering Match)

UTC UTC UTC

```
uTCTimeOrderingMatch MATCHING-RULE ::= {  
    SYNTAX UTCTime  
    ID      { matchingRule 39 } }
```

, TRUE . UTC 가  
, 0 가 .

#### 7.2.9 (Telephone Number Match)

```
telephoneNumberMatch MATCHING-RULE ::= {  
    SYNTAX UTCTime  
    ID      { matchingRule 40 } }
```

‘-’ 가 , caseIgnoreMatch .

#### 7.2.10 (Telephone Number Substrings Match)

가 가 (

)

```
telephoneNumberSubstringsMatch MATCHING-RULE ::= {  
    SYNTAX SubstringAssertion  
    ID      { matchingRule 41 } }
```

‘-’ 가 , caseExactSubstringsMatch .

#### 7.2.11 (Presentation Address Match)

```

presentationAddressMatch MATCHING-RULE ::= {
    SYNTAX PrintableString
    ID      { matchingRule 42 } }

    selector가 , nAddress가
, TRUE .

```

### 7.3

#### 7.3.1 (Word Match)

```

DirectoryString .

wordMatch MATCHING-RULE ::= {
    SYNTAX DirectoryString {ub-match}
    ID      { matchingRule 43 } }

가 (caseIgnoreMatch) ,
TRUE .

```

#### 7.3.2 (Keyword Match)

```

keywordMatch MATCHING-RULE ::= {
    SYNTAX DirectoryString {ub-match}
    ID      { matchingRule 44 } }

, TRUE .

```

## ASN. 1

```

ASN. 1
ASN. 1
Selected-
Attribute .

BEGIN

-- EXPORTS ALL

IMPORTS

informationFramework, authenticationFramework, attributeType, upperBounds
    FROM Useful Definitions { joint-iso-ccitt ds(5) modules(1) usefule
    Definitions(0) },

ATTRIBUTE, ATTRIBUTE-SYNTAX, attributeType, OBJECT-CLASS,
ObjectClass, AliasedObjectName, DistinguishedNameSyntax, ObjectIdentifierSyntax
    FROM InformationFramework iInformationFramework,

G3FacsimileNonBasicParameters, TeletexNonBasicParameters
    FROM MTSAbstractService { joint-iso-ccitt nhs-mtis(6) mts(3) modules(0)
    mts-abstract-service(1) }

UserCertificate, CACertificate, CrossCertificatePair, CertificateRevocationList,
AuthorityRevocationList, UserPassword
    FROM AuthenticationFramework authenticationFramework

ub-answerback, ub-common-name, ub-surname, ub-serial-number, ub-local-name, ub-state-
name,
ub-street-address, ub-organization-name, ub-organizational-unit-name, ub-title,
ub-description, ub-business-category, ub-postal-line, ub-postal-string,
ub-postal-code, ub-post-office-box, ub-physical-office-name, ub-telex-number,
ub-country-code, ub-teletex-terminal-id, ub-telephone-number, ub-x121-address,
ub-international-isdn-number, ub-destination-indicator, ub-user-password
    FROM UpperBoinds upperBounds;

-- Directory string type

DirectoryString ::= CHOICE {
    T61String (SIZE (1..maxSize)),
    PrintableString (SIZE (1..maxSize)),

```

UNIVERSAL STRING (SIZE (1..maxSize)) }

-- Attribute types

```
knowledgeInformation ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX    DirectoryString {65535}
    EQUALITY MATCHING RULE   caseIgnoreMatch
    ID                        { attributeType 2 } }

name ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX    DirectoryString {65535}
    EQUALITY MATCHING RULE   caseIgnoreMatch
    ORDERING MATCHING RULE   caseIgnoreOrderingmatch
    SUBSTRING MATCHING RULE  caseIgnoreSubstringsMatch
    ID                        { attributeType ... } }

commonName ATTRIBUTE ::= {
    SUBTYPE OF               name
    WITH ATTRIBUTE SYNTAX    DirectoryString {ub-common-name}
    ID                        { attributeType 3 } }

surname ATTRIBUTE ::= {
    SUBTYPE OF               name
    WITH ATTRIBUTE SYNTAX    DirectoryString {ub-surname}
    ID                        { attributeType 4 } }

serialNumber ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX    PrintableString (SIZE (1..ub-serialNumber))
    EQUALITY MATCHING RULE   caseIgnoreMatch
    ORDERING MATCHING RULE   caseIgnoreOrderingmatch
    SUBSTRING MATCHING RULE  caseIgnoreSubstringsMatch
    ID                        { attributeType 5 } }

dnQualifier ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX    PrintableString
    EQUALITY MATCHING RULE   caseIgnoreMatch
    ORDERING MATCHING RULE   caseIgnoreOrderingmatch
    SUBSTRING MATCHING RULE  caseIgnoreSubstringsMatch
    ID                        { attributeType 50 } }

countryName ATTRIBUTE ::= {
    SUBTYPE OF               name
    WITH ATTRIBUTE SYNTAX    PrintableString ((SIZE (2))
    ID                        { attributeType 6 } }

localityName ATTRIBUTE ::= {
    SUBTYPE OF               name
    WITH ATTRIBUTE SYNTAX    DirectoryString {65535}
    ID                        { attributeType 7 } }
```

```

collectiveLocalityName ATTRIBUTE ::= {
    SUBTYPE OF          localityName
    COLLECTIVE          TRUE
    ID                  { attributeType 71 } }

stateOrProvinceName ATTRIBUTE ::= {
    SUBTYPE OF          name
    WITH ATTRIBUTE SYNTAX stringSyntax {ub-state-name}
    ID                  { attributeType 8 } }

collectiveStateOrProvinceName ATTRIBUTE ::= {
    SUBTYPE OF          stateOrProvinceName
    COLLECTIVE          TRUE
    ID                  { attributeType 81 } }

streetAddress ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX DirectoryString {65535}
    EQUALITY MATCHING RULE caseIgnoreMatch
    ORDERING MATCHING RULE caseIgnoreOrderingmatch
    SUBSTRING MATCHING RULE caseIgnoreSubstringsMatch
    ID                  { attributeType 9 } }

collectiveStreetAddress ATTRIBUTE ::= {
    SUBTYPE OF          streetAddress
    COLLECTIVE          TRUE
    ID                  { attributeType 91 } }

organizationName ATTRIBUTE ::= {
    SUBTYPE OF          name
    WITH ATTRIBUTE SYNTAX DirectoryString {ub-organization-name}
    ID                  { attributeType 10 } }

collectiveOrganizationName ATTRIBUTE ::= {
    SUBTYPE OF          organizationName
    COLLECTIVE          TRUE
    ID                  { attributeType 101 } }

organizationalUnitName ATTRIBUTE ::= {
    SUBTYPE OF          name
    WITH ATTRIBUTE SYNTAX DirectoryString {ub-organizational-unit-name }
    ID                  { attributeType 11 } }

collectiveOrganizationalUnitName ATTRIBUTE ::= {
    SUBTYPE OF          organizationalUnitName
    COLLECTIVE          TRUE
    ID                  { attributeType 111 } }

title ATTRIBUTE ::= {
    SUBTYPE OF          name
    WITH ATTRIBUTE SYNTAX DirectoryString {ub-title}

```

```

ID                                     { attributeType 12 } }

description ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX    DirectoryString {ub-title}
    EQUALITY MATCHING RULE   caseIgnoreMatch
    ORDERING MATCHING RULE   caseIgnoreOrderingmatch
    SUBSTRING MATCHING RULE   caseIgnoreSubstringsMatch
    ID                        { attributeType 13 } }

searchGuide ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX    Guide
    ID                        { attributeType 14 } }

Guide ::= SET {
    objectClasee             [0] OBJECT-CLASS OPTIONAL,
    criteria                  [1] Criteria }

Criteria ::= CHOICE {
    type                      [0] CriteriaItem,
    and                       [1] SET OF Criteria,
    or                        [2] SET OF Criteria,
    not                       [3] Criteria }

CriteriaItem ::= CHOICE {
    equality                   [0] AttributeType,
    substrings                 [1] AttributeType,
    greaterOrEqual             [2] AttributeType,
    lessOrEqual                [3] AttributeType,
    approximateMatch           [4] AttributeType }

EnhancedSearchGuide ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX    EnhancedGuide
    ID                        { attributeType 51 } }

EnhancedGuide ::= SEQUENCE {
    objectClasee              [0] OBJECT-CLASS,
    criteria                   [1] Criteria
    subset                     [2] INTEGER {baseObject(0), oneLevel(1), wholeSubtree(2)}
                                DEFAULT oneLevel }

businessCategory ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX    DirectoryString {ub-business-category}
    EQUALITY MATCHING RULE   caseIgnoreMatch
    ORDERING MATCHING RULE   caseIgnoreOrderingmatch
    SUBSTRING MATCHING RULE   caseIgnoreSubstringsMatch
    ID                        { attributeType 15 } }

postalAddress ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX    PostalAddress
    EQUALITY MATCHING RULE   caseIgnoreListMatch

```



```

SUBSTRING MATCHING RULE caseIgnoreSubstringsMatch
ID { attributeType 16 } }

PostalAddress ::= SEQUENCE (1..ub-postal-line) OF DirectoryString {ub-postal-string}

collectivePostalAddress ATTRIBUTE ::= {
    SUBTYPE OF postalAddress
    COLLECTIVE TRUE
    ID { attributeType 161 } }

postalCode ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX DirectoryString {ub-postal-code}
    EQUALITY MATCHING RULE caseIgnoreMatch
    ORDERING MATCHING RULE caseIgnoreOrderingMatch
    SUBSTRING MATCHING RULE caseIgnoreSubstringsMatch
    ID { attributeType 17 } }

collectivePostalCode ATTRIBUTE ::= {
    SUBTYPE OF postalCode
    COLLECTIVE TRUE
    ID { attributeType 171 } }

postOfficeBox ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX DirectoryString {ub-post-office-box}
    EQUALITY MATCHING RULE caseIgnoreMatch
    ORDERING MATCHING RULE caseIgnoreOrderingMatch
    SUBSTRING MATCHING RULE caseIgnoreSubstringsMatch
    ID { attributeType 18 } }

collectivePostOfficeBox ATTRIBUTE ::= {
    SUBTYPE OF postOfficeBox
    COLLECTIVE TRUE
    ID { attributeType 181 } }

physicalDeliveryOfficeName ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX DirectoryString {ub-physical-office-name}
    EQUALITY MATCHING RULE caseIgnoreMatch
    SUBSTRING MATCHING RULE caseIgnoreSubstringsMatch
    ID { attributeType 19 } }

collectivePhysicalDeliveryOfficeName ATTRIBUTE ::= {
    SUBTYPE OF physicalDeliveryOfficeName
    COLLECTIVE TRUE
    ID { attributeType 191 } }

telephoneNumber ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX PrintableString {ub-telephone-number}
    EQUALITY MATCHING RULE telephoneNumberMatch
    SUBSTRING MATCHING RULE telephoneNumberSubstringsMatch

```

```

ID                                { attributeType 20 } }

collectiveTelephoneNumber ATTRIBUTE ::= {
    SUBTYPE OF                telephoneNumber
    COLLECTIVE                TRUE
    ID                        { attributeType 201 } }

telexNumber ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX    TelexNumber
    EQUALITY MATCHING RULE  caseExactMatch
    SUBSTRING MATCHING RULE caseTelephoneNumberSubstringsMatch
    ID                        { attributeType 13 } }

TelexNumber ::= SEQUENCE {
    telexNumber      PrintableString (SIZE(1..ub-telex-number)),
    countryCode      PrintableString (SIZE(1..ub-country-code)),
    answerback       PrintableString (SIZE(1..ub-answerback)) }

collectiveTelexNumber ATTRIBUTE ::= {
    SUBTYPE OF                telexNumber
    COLLECTIVE                TRUE
    ID                        { attributeType 211 } }

teletexTerminalIdentifier ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX    TelexTerminalIdentifier
    ID                        { attributeType 22 } }

TeletexTerminalIdentifier ::= SEQUENCE {
    teletexTerminal      PrintableString ((SIZE(1..ub-teletex-terminal-id))),
    parameters           TelexNonBasicParameters OPTIONAL }

collectiveTeletexTerminalIdentifier ATTRIBUTE ::= {
    SUBTYPE OF                teletexTerminalIdentifier
    COLLECTIVE                TRUE
    ID                        { attributeType 221 } }

facsimileTelephoneNumber ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX    FacsimileTelephoneNumber
    ID                        { attributeType 23 } }

FacsimileTelephoneNumber ::= SEQUENCE {
    telephoneNumber      PrintableString ((SIZE(1..ub-telephone-number))),
    parameters           FacsimileNonBasicParameters OPTIONAL }

collectiveFacsimileTelephoneNumber ATTRIBUTE ::= {
    SUBTYPE OF                facsimileTelephoneNumber
    COLLECTIVE                TRUE
    ID                        { attributeType 231 } }

x121Address ATTRIBUTE ::= {

```

```

WITH ATTRIBUTE SYNTAX  NumericString ((SIZE (1..ub-x121-address)))
EQUALITY MATCHING RULE caseExactMatch
SUBSTRING MATCHING RULE caseExactSubstringsMatch
ID                      { attributeType 24 } }

internationalISDNNumber ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX  NumericString (SIZE (1..ub-international-isdn-number))
    EQUALITY MATCHING RULE caseExactMatch
    SUBSTRING MATCHING RULE caseExactSubstringsMatch
    ID                      { attributeType 25 } }

collectiveInternationalISDNNumber ATTRIBUTE ::= {
    SUBTYPE OF              internationalISDNNumber
    COLLECTIVE              TRUE
    ID                      { attributeType 251 } }

registeredAddress ATTRIBUTE ::= {
    SUBTYPE OF              postalAddress
    WITH ATTRIBUTE SYNTAX  postalAddress
    ID                      { attributeType 26 } }

destinationIndicator ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX  PrintableString (SIZE (1..ub-destination-indicator))
    EQUALITY MATCHING RULE caseIgnoreMatch
    SUBSTRING MATCHING RULE caseIgnoreSubstringsmatch
    ID                      { attributeType 27 } }

preferredDeliveryMethod ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX  SEQUENCE OF INTEGER {
        any-delivery-method      (0),
        mhs-delivery-method      (1),
        physical-delivery-method (2),
        telex-delivery           (3),
        teletex-delivery         (4),
        g3-facsimile-delivery     (5),
        g4-facsimile-delivery     (6),
        ia5-terminal-delivery     (7),
        videotex-delivery        (8),
        telephone-delivery       (9) }
    SINGLE VALUE            TRUE
    ID                      { attributeType 28 } }

presentationAddress ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX  PresentationAddress
    EQUALITY MATCHING RULE presentationAddressMatch
    SINGLE VALUE          TRUE
    ID                      { attributeType 29 } }

PresentationAdress ::= SEQUENCE {
    pSelector      [0] OCTET STRING OPTIONAL,

```

```

sSelector      [1] OCTET STRING OPTIONAL,
tSelector      [2] OCTET STRING OPTIONAL,
nAddress       [3] SET SIZE(1..MAX) OF OCTET STRING }

supportedApplicationContext ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX   OBJECT IDENTIFIER
    EQUALITY MATCHING RULE  objectIdentifierMatch
    ID                      { attributeType 30 } }

protocolInformation ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX   ProtocolInformation
    ID                      { attributeType 52 } }

ProtocolInformation ::= SEQUENCE {
    nAddress      OCTET STRING,
    protocol      SET OF OBJECT IDENTIFIER }

distinguishedName ATTRIBUTE ::= {
    WITH ATTRIBUTE SYNTAX   DistinguishedName
    EQUALITY MATCHING RULE  distinguishedMatch
    ID                      { attributeType ... } }

member ATTRIBUTE ::= {
    SUBTYPE OF              distinguishedName
    ID                      { attributeType 31 } }

owner ATTRIBUTE ::= {
    SUBTYPE OF              distinguishedName
    ID                      { attributeType 32 } }

roleOccupant ATTRIBUTE ::= {
    SUBTYPE OF              distinguishedName
    ID                      { attributeType 33 } }

seeAlso ATTRIBUTE ::= {
    SUBTYPE OF              distinguishedName
    ID                      { attributeType 34 } }

-- Attribute Syntaxes

undefined ATTRIBUTE-SYNTAX ::= {
    SYNTAX ANY
    ID      { attributeSyntax 0 } }

distinguishedNameSyntax ATTRIBUTE-SYNTAX ::= {
    SYNTAX DistinguishedName
    ID      { attributeSyntax 1 } }

objectIdentifierSyntax ATTRIBUTE-SYNTAX ::= {
    SYNTAX OBJECT IDENTIFIER

```

```

ID      { attributeSyntax 2 } }

caseExactStringSyntax ATTRIBUTE-SYNTAX ::= {
    STNTAX CHOICE {T61String, PrintableString}
    ID      { attributeSyntax 3 } }

caseIgnoreStringSyntax ATTRIBUTE-SYNTAX ::= {
    STNTAX CHOICE {T61String, PrintableString}
    ID      { attributeSyntax 4 } }

printableStringSyntax ATTRIBUTE-SYNTAX ::= {
    STNTAX PrintableString
    ID      { attributeSyntax 5 } }

numericStringSyntax ATTRIBUTE-SYNTAX ::= {
    STNTAX NumericString
    ID      { attributeSyntax 6 } }

caseIgnoreListSyntax ATTRIBUTE-SYNTAX ::= {
    STNTAX SEQUENCE OF CHOICE {T61String, PrintableString}
    ID      { attributeSyntax 7 } }

booleanSyntax ATTRIBUTE-SYNTAX ::= {
    STNTAX BOOLEAN
    ID      { attributeSyntax 8 } }

integerSyntax ATTRIBUTE-SYNTAX ::= {
    STNTAX INTEGER
    ID      { attributeSyntax 9 } }

octetStringSyntax ATTRIBUTE-SYNTAX ::= {
    STNTAX OCTET STRING
    ID      { attributeSyntax 10 } }

uTCTimeSyntax ATTRIBUTE-SYNTAX ::= {
    STNTAX UTCTime
    ID      { attributeSyntax 11 } }

telephoneNumberSyntax ATTRIBUTE-SYNTAX ::= {
    STNTAX PrintableString (SIZE(1..ub-telephone-number))
    ID      { attributeSyntax 12 } }

-- Matching rules

caseIgnoreMatch MATCHING-RULE ::= {
    SYNTAX DirectoryString {ub-match}
    ID      { matchingRule 21 } }

caseIgnoreOrderingMatch MATCHING-RULE ::= {
    SYNTAX DirectoryString {ub-match}

```

```

ID      { matchingRule 22 } }

caseIgnoreSubstringsMatch MATCHING-RULE ::= {
    SYNTAX SubstringAssertion
    ID      { matchingRule 23 } }

SubstringAssertion ::= SEQUENCE OF CHOICE {
    initial  [0] DirectoryString {ub-match},
    any      [1] DirectoryString {ub-match},
    final    [2] DirectoryString {ub-match} }
-- at most one initial and one final component

caseExactMatch MATCHING-RULE ::= {
    SYNTAX DirectoryString {ub-match}
    ID      { matchingRule 24 } }

caseExactOrderingMatch MATCHING-RULE ::= {
    SYNTAX DirectoryString {ub-match}
    ID      { matchingRule 25 } }

caseExactStringSubstringsMatch MATCHING-RULE ::= {
    SYNTAX SubstringAssertion
    ID      { matchingRule 26 } }

numericStringMatch MATCHING-RULE ::= {
    SYNTAX NumericString
    ID      { matchingRule 27 } }

numericStringOrderingMatch MATCHING-RULE ::= {
    SYNTAX NumericString
    ID      { matchingRule 28 } }

numericStringSubstringsMatch MATCHING-RULE ::= {
    SYNTAX SubstringAssertion
    ID      { matchingRule 29 } }

caseIgnoreListMatch MATCHING-RULE ::= {
    SYNTAX SEQUENCE OF DirectoryString {ub-match}
    ID      { matchingRule 30 } }

caseIgnoreListSubstringsMatch MATCHING-RULE ::= {
    SYNTAX SubstringAssertion
    ID      { matchingRule 31 } }

booleanMatch MATCHING-RULE ::= {
    SYNTAX BOOLEAN
    ID      { matchingRule 32 } }

integerMatch MATCHING-RULE ::= {
    SYNTAX INTEGER

```

```

ID      { matchingRule 33 } }

octetStringMatch MATCHING-RULE ::= {
    SYNTAX  OCTET STRING
    ID      { matchingRule 35 } }

octetStringOrderingMatch MATCHING-RULE ::= {
    SYNTAX  OCTET STRING
    ID      { matchingRule 36 } }

octetStringSubstringsMatch MATCHING-RULE ::= {
    SYNTAX  OctetSubstringAssertion
    ID      { matchingRule 37 } }

SubstringAssertion ::= SEQUENCE OF CHOICE {
    initial  [0] OCTET STRING {ub-match},
    any      [1] OCTET STRING {ub-match},
    final    [2] OCTET STRING {ub-match} }
    -- at most one initial and one final component

uTCTimeMatch MATCHING-RULE ::= {
    SYNTAX  SubstringAssertion
    ID      { matchingRule 38 } }

uTCTimeOrderingMatch MATCHING-RULE ::= {
    SYNTAX  UTCTime
    ID      { matchingRule 39 } }

telephoneNumberMatch MATCHING-RULE ::= {
    SYNTAX  UTCTime
    ID      { matchingRule 40 } }

telephoneNumberSubstringsMatch MATCHING-RULE ::= {
    SYNTAX  SubstringAssertion
    ID      { matchingRule 41 } }

presentationAddressMatch MATCHING-RULE ::= {
    SYNTAX  PrintableString
    ID      { matchingRule 42 } }

wordMatch MATCHING-RULE ::= {
    SYNTAX  DirectoryString {ub-match}
    ID      { matchingRule 43 } }

keywordMatch MATCHING-RULE ::= {
    SYNTAX  DirectoryString {ub-match}
    ID      { matchingRule 44 } }

END

```

가

## DirectoryString

Name

CommonName

CountryName

LocalityName

CollectiveLocalityName

StateOrProvinceName

OrganizationName

CollectiveOrganizationName

OrganizationalUnitName

CollectiveOrganizationalUnitName

Surname

Title

StreetAddress

CollectiveStreetAddress

Description

BusinessCategory

PostalCode

CollectivePostalCode

PostOfficeBox

CollectivePostOfficeBox

PhysicalDeliveryOfficeName

CollectivePhysicalDeliveryOfficeName

KnowledgeInformation

## PrintableString

SerialNumber

DNQualifier

DestinationIdentifier

TelephoneNumber

CollectiveTelephoneNumber

## NumericString

X121Address

CollectiveX121Address



InternationalISDNNumber

CollectiveInternationalISDNNumber

ObjectIdentifier

ObjectClass

SupportedApplicationContext

DistinguishedName

AliasObjectName

Member

Owner

RoleOccupant

SeeAlso

SearchGuide

EnhancedSearchGuide

PostalAddress

CollectivePostalAddress

RegisteredAddress

TelexNumber

CollectiveTelexNumber

TeleTerminalIdentifier

CollectiveTeleTerminalIdentifier

FacsimileTelephoneNumber

CollectiveFacsimileTelephoneNumber

PreferredDeliveryMethod

PresentationAddress

ProtocolInformation

## C

```
UpperBounds { joint-iso-ccitt ds(5) modules(1) upperBounds(10) }
```

```
DEFINITIONS ::=
```

```
BEGIN
```

```
-- EXPORTS ALL
```

ub-answerback	INTEGER ::= 8
ub-common-name	INTEGER ::= 64
ub-surname	INTEGER ::= 64
ub-serial-number	INTEGER ::= 64
ub-local-name	INTEGER ::= 128
ub-state-name	INTEGER ::= 128
ub-street-address	INTEGER ::= 128
ub-organization-name	INTEGER ::= 64
ub-organizational-unit-name	INTEGER ::= 64
ub-title	INTEGER ::= 64
ub-description	INTEGER ::= 1024
ub-business-category	INTEGER ::= 128
ub-postal-line	INTEGER ::= 6
ub-postal-string	INTEGER ::= 30
ub-postal-code	INTEGER ::= 40
ub-post-office-box	INTEGER ::= 40
ub-physical-office-name	INTEGER ::= 128
ub-telex-number	INTEGER ::= 14
ub-country-code	INTEGER ::= 4
ub-teletex-terminal-id	INTEGER ::= 1024
ub-telephone-number	INTEGER ::= 32
ub-x121-address	INTEGER ::= 15
ub-international-isdn-number	INTEGER ::= 16
ub-destination-indicator	INTEGER ::= 128
ub-user-password	INTEGER ::= 128
ub-match	INTEGER ::= 128

```
END
```