

DEFECT REPORT FORM

1. Defect Report Number: **243**

Title: Miscellaneous errors in X.525

2. Source: CEN/ISSS/WS-DIR (ISSS-x525-1 R1)

3. Addressed to: ISO/IEC JTC1/SC6 and ITU-T SG 7
Editor Group on the Directory

4. (a) WG Secretariat: UK (BSI)

(b) ITU-T WP: WP 4

5. Date Circulated by WG Secretariat:

6. Deadline for Response from Editor:

7. Defect Report Concerning: ITU-T Rec. X.525 (1997) | ISO/IEC 9594-9:1998

8. Qualifier: Errors

9. References in Document: (e.g.: page, clause/section, figure, and/or table numbers)

2.1, 6, 9.2, 11.1-3, and Annex A

10. Nature of Defect: (complete, concise explanation of the perceived problem)

The reference year for the ISO/IEC should be 1998, rather than 1997

Wrong reference in clause 6.

In 9.2, the **UnitOfReplication** type has a reference to **ContextType**. This type does not exist. Probably, **CONTEXT.&id** should be used instead.

In 11.1:

- a) **CoordinateShadowUpdate** starts with an upper case letter. It should be lower case.
- b) **CoordinateShadowUpdateArgument** type has an context specific tag zero that is not part of the operational protection amendment. It is in the **OPTIONALLY-PROTECTED { [0] SEQUENCE {**
- c) The last right curly parenthesis in the **CoordinateShadowUpdateArgument** should be removed

In 11.2, **RequestShadowUpdateArgument** type has a context specific tag zero that is not part of the operational protection amendment. It is in the **OPTIONALLY-PROTECTED { [0] SEQUENCE {**

In 11.3, **UpdateShadowArgument** type has a context specific tag zero that is not part of the operational

Annex A has not been updated to reflect the 1997 additions.

11. Solution Proposed by the Source: (optional)

In to 2.1, change all references of ISO/IEC 9594-x:1997 to ISO/IEC 9594-x:1998

In clause 6, change ITU-T Rec. X.518| ISO/IEC 9594-5 to ITU-T Rec. X.519 | ISO/IEC 9594-5

*In 9.2 in the **UnitOfReplication** type, change **ContextType** to **CONTEXT.&id**.*

In 11.1:

- a) *change **CoordinateShadowUpdate** to **coordinateShadowUpdate***
- b) *in the **CoordinateShadowUpdateArgument** type, change **OPTIONALLY-PROTECTED { [0] SEQUENCE** { to **OPTIONALLY-PROTECTED { SEQUENCE** {*
- c) *remove the last right curly parenthesis in the **CoordinateShadowUpdateArgument***

*In 11.2 and in the **RequestShadowUpdateArgument** type, change **OPTIONALLY-PROTECTED { [0] SEQUENCE** { to **OPTIONALLY-PROTECTED { SEQUENCE** {*

*In 11.3 and in the **UpdateShadowArgument** type, change **OPTIONALLY-PROTECTED { [0] SEQUENCE** { to **OPTIONALLY-PROTECTED { SEQUENCE** {*

Replace the ASN.1 in Annex a with:

```
DirectoryShadowAbstractService
  {joint-iso-itu-t ds(5) module(1) directoryShadowAbstractService(15) 3}
DEFINITIONS IMPLICIT TAGS ::=
BEGIN
```

```
-- EXPORTS All --
```

```
-- The types and values defined in this module are exported for use in the other ASN.1 modules contained
-- within the Directory Specifications, and for the use of other applications which will use them to access
-- directory services. Other applications may use them for their own purposes, but this will not constrain
-- extensions and modifications needed to maintain or improve the directory service.
```

```
IMPORTS
```

```
informationFramework, directoryOperationalBindingTypes, enhancedSecurity,
directoryAbstractService, distributedOperations, disp, opBindingManagement,
dsaOperationalAttributeTypes
  FROM UsefulDefinitions {joint-iso-itu-t ds(5) module(1) usefulDefinitions(0) 4}
```

```
DistinguishedName, SubtreeSpecification, AttributeType, RelativeDistinguishedName,
Attribute, CONTEXT
  FROM InformationFramework informationFramework
```

```
OPERATIONAL-BINDING, OperationalBindingID
  FROM OperationalBindingManagement opBindingManagement
```

```
DSEType, SupplierAndConsumers
  FROM DSAOperationalAttributeTypes dsaOperationalAttributeTypes
```

```
id-op-binding-shadow
  FROM DirectoryOperationalBindingTypes directoryOperationalBindingTypes
```

```
directoryBind, directoryUnbind, EntryModification, SecurityParameters, ContextSelection,
CommonResults
  FROM DirectoryAbstractService directoryAbstractService
```

```
AccessPoint
  FROM DistributedOperations distributedOperations
```

```
OPTIONALLY-PROTECTED, DIRQOP
  FROM EnhancedSecurity enhancedSecurity
```

```
OPERATION, ERROR
  FROM Remote-Operations-Information-Objects
  {joint-iso-ccitt remote-operations(4) informationObjects(5) version1(0) }
```

```
id-opcode-requestShadowUpdate, id-opcode-updateShadow,
```

```

shadowConsumerInitiatedAC, reliableShadowSupplierInitiatedAC,
reliableShadowConsumerInitiatedAC
FROM DirectoryInformationShadowProtocol disp

PROTECTED
FROM Notation { joint-iso-ccitt genericULS (20) modules (1) notation (1) } ;

-- bind and unbind operations --

dSAShadowBind      OPERATION      ::=  directoryBind
dSAShadowUnbind    OPERATION      ::=  directoryUnbind

-- shadow operational binding --

shadowOperationalBinding OPERATIONAL-BINDING ::= {
  AGREEMENT          ShadowingAgreementInfo
  APPLICATION CONTEXTS {
    { shadowSupplierInitiatedAC
      APPLIES TO { All-operations-supplier-initiated } } |
    { shadowConsumerInitiatedAC
      APPLIES TO { All-operations-consumer-initiated } } |
    { reliableShadowSupplierInitiatedAC
      APPLIES TO { All-operations-supplier-initiated } } |
    { reliableShadowConsumerInitiatedAC
      APPLIES TO { All-operations-consumer-initiated } } }
  ASYMMETRIC
  ROLE-A { -- shadow supplier role
    ESTABLISHMENT-INITIATOR TRUE
    ESTABLISHMENT-PARAMETER NULL
    MODIFICATION-INITIATOR TRUE
    TERMINATION-INITIATOR TRUE }
  ROLE-B { -- shadow consumer role
    ESTABLISHMENT-INITIATOR TRUE
    ESTABLISHMENT-PARAMETER NULL
    MODIFICATION-INITIATOR TRUE
    MODIFICATION-PARAMETER ModificationParameter
    TERMINATION-INITIATOR TRUE }
  ID id-op-binding-shadow }

-- types --

ModificationParameter ::= SEQUENCE {
  secondaryShadows SET OF SupplierAndConsumers }

AgreementID ::= OperationalBindingID

ShadowingAgreementInfo ::= SEQUENCE {
  shadowSubject      UnitOfReplication,
  updateMode        UpdateMode DEFAULT supplierInitiated : onChange : TRUE,
  master            AccessPoint OPTIONAL,
  secondaryShadows [2] BOOLEAN DEFAULT FALSE }

UnitOfReplication ::= SEQUENCE {
  area              AreaSpecification,
  attributes        AttributeSelection,
  knowledge         Knowledge OPTIONAL,
  contextSelection  ContextSelection OPTIONAL,
  supplyContexts   CHOICE {
    allContexts     NULL,
    selectedContexts SET OF CONTEXT.&id } OPTIONAL }

AreaSpecification ::= SEQUENCE {
  contextPrefix    DistinguishedName,
  replicationArea  SubtreeSpecification }

Knowledge ::= SEQUENCE {
  knowledgeType    ENUMERATED {
    master (0),
    shadow (1),
    both (2) },
  extendedKnowledge BOOLEAN DEFAULT FALSE }

```

```

ClassAttributeSelection ::= SEQUENCE {
    class          OBJECT IDENTIFIER OPTIONAL,
    classAttributes ClassAttributes DEFAULT allAttributes : NULL }

ClassAttributes ::= CHOICE {
    allAttributes    NULL,
    include          [0] AttributeTypes,
    exclude          [1] AttributeTypes }

AttributeTypes ::= SET OF AttributeType

UpdateMode ::= CHOICE {
    supplierInitiated [0] SupplierUpdateMode,
    consumerInitiated [1] ConsumerUpdateMode }

SupplierUpdateMode ::= CHOICE {
    onChange        BOOLEAN,
    scheduled        SchedulingParameters }

ConsumerUpdateMode ::= SchedulingParameters

SchedulingParameters ::= SEQUENCE {
    periodic         PeriodicStrategy OPTIONAL, -- must be present if othertimes is set to
    FALSE --
    othertimes       BOOLEAN DEFAULT FALSE }

PeriodicStrategy ::= SEQUENCE {
    beginTime        Time OPTIONAL,
    windowSize       INTEGER,
    updateInterval   INTEGER }

Time ::= GeneralizedTime
-- as per 34.2 b) and c) of CCITT Rec. X.208 and ISO/IEC 8824

UpdateWindow ::= SEQUENCE {
    start            Time,
    stop             Time }

-- shadow operations, arguments, and results --

coordinateShadowUpdate OPERATION ::= {
    ARGUMENT         CoordinateShadowUpdateArgument
    RESULT           CoordinateShadowUpdateResult
    ERRORS           { shadowError }
    CODE             id-opcode-coordinateShadowUpdate }

CoordinateShadowUpdateArgument ::= OPTIONALLY-PROTECTED { SEQUENCE {
    agreementID      AgreementID,
    lastUpdate       Time OPTIONAL,
    updateStrategy   CHOICE {
        standard      ENUMERATED {
            noChanges (0),
            incremental (1),
            total (2) },
        other          EXTERNAL },
    securityParameters SecurityParameters OPTIONAL },
    DIRQOP.&dispCoorShadowArg-QOP{@dirqop} }

CoordinateShadowUpdateResult ::= CHOICE {
    null             NULL,
    information       PROTECTED {
        SEQUENCE {
            greementID AgreementID,
            lastUpdate Time OPTIONAL,
            COMPONENTS OF CommonResults },
        DIRQOP.&dispCoorShadowRes-QOP{@dirqop} } }

updateShadow OPERATION ::= {
    ARGUMENT         UpdateShadowArgument
    RESULT           UpdateShadowResult
    ERRORS           { shadowError }
    CODE             id-opcode-updateShadow }

```

```

UpdateShadowArgument ::= OPTIONALLY-PROTECTED { [0] SEQUENCE {
    agreementID      AgreementID,
    updateTime       Time,
    updateWindow     UpdateWindow OPTIONAL,
    updatedInfo      RefreshInformation,
    securityParameters SecurityParameters OPTIONAL },
    DIRQOP.&dispUpdateShadowArg-QOP{@dirqop} }

UpdateShadowResult ::= CHOICE {
    null            NULL,
    information     PROTECTED {
        SEQUENCE {
            agreementID      AgreementID,
            lastUpdate       Time OPTIONAL,
            COMPONENTS OF    CommonResults },
        DIRQOP.&dispUpdateShadowRes-QOP{@dirqop} } }

RefreshInformation ::= CHOICE {
    noRefresh      NULL,
    total          [0] TotalRefresh,
    incremental    [1] IncrementalRefresh,
    otherStrategy  EXTERNAL }

TotalRefresh ::= SEQUENCE {
    sDSE          SDSEContent OPTIONAL,
    subtree       SET OF Subtree OPTIONAL }

SDSEContent ::= SEQUENCE {
    sDSEType      SDSEType,
    subComplete   [0] BOOLEAN DEFAULT FALSE,
    attComplete   [1] BOOLEAN OPTIONAL,
    attributes    SET OF Attribute,
    attVallIncomplete SET OF AttributeType DEFAULT {} }

SDSEType ::= DSEType

Subtree ::= SEQUENCE {
    rdn           RelativeDistinguishedName,
    COMPONENTS OF TotalRefresh }

IncrementalRefresh ::= SEQUENCE OF IncrementalStepRefresh

IncrementalStepRefresh ::= SEQUENCE {
    sDSEChanges   CHOICE {
        add        [0] SDSEContent,
        remove     NULL,
        modify     [1] ContentChange } OPTIONAL,
    subordinateUpdates SEQUENCE OF SubordinateChanges OPTIONAL }

ContentChange ::= SEQUENCE {
    rename        CHOICE {
        newRDN      RelativeDistinguishedName,
        newDN       DistinguishedName } OPTIONAL,
    attributeChanges CHOICE {
        replace     [0] SET OF Attribute,
        changes     [1] SEQUENCE OF EntryModification } OPTIONAL,
    sDSEType      SDSEType,
    subComplete   [2] BOOLEAN DEFAULT FALSE,
    attComplete   [3] BOOLEAN OPTIONAL,
    attVallIncomplete SET OF AttributeType DEFAULT {} }

SubordinateChanges ::= SEQUENCE {
    subordinate   RelativeDistinguishedName,
    changes       IncrementalStepRefresh }

requestShadowUpdate OPERATION ::= {
    ARGUMENT      RequestShadowUpdateArgument
    RESULT        RequestShadowUpdateResult
    ERRORS        { shadowError }
    CODE          id-opcode-requestShadowUpdate }

```

```

RequestShadowUpdateArgument ::= OPTIONALLY-PROTECTED { [0] SEQUENCE {
    agreementID      AgreementID,
    lastUpdate       Time OPTIONAL,
    requestedStrategy CHOICE {
        standard     ENUMERATED {
            incremental (1),
            total      (2) },
        other        EXTERNAL },
    securityParameters SecurityParameters OPTIONAL },
    DIRQOP.&dispRequestShadowUpdateArg-QOP{@dirqop} }

```

```

RequestShadowUpdateResult ::= CHOICE {
    null          NULL,
    information    PROTECTED {
        SEQUENCE {
            agreementID      AgreementID,
            lastUpdate       Time OPTIONAL,
            COMPONENTS OF    CommonResults },
        DIRQOP.&dispRequestShadowUpdateRes-QOP{@dirqop} } }

```

-- errors and parameters --

```

shadowError ERROR ::= {
    PARAMETER    OPTIONALLY-PROTECTED { SEQUENCE {
        problem      ShadowProblem,
        lastUpdate   Time OPTIONAL,
        updateWindow UpdateWindow OPTIONAL,
        COMPONENTS OF CommonResults },
        DIRQOP.&dirErrors-QOP{@dirqop} }
    CODE         id-errcode-shadowError }

```

```

ShadowProblem ::= INTEGER {
    invalidAgreementID      (1),
    inactiveAgreement       (2),
    invalidInformationReceived (3),
    unsupportedStrategy     (4),
    missedPrevious          (5),
    fullUpdateRequired      (6),
    unwillingToPerform      (7),
    unsuitableTiming        (8),
    updateAlreadyReceived   (9),
    invalidSequencing       (10),
    insufficientResources    (11) }

```

```

All-operations-consumer-initiated OPERATION ::= {
    requestShadowUpdate | updateShadow }

```

```

All-operations-supplier-initiated OPERATION ::= {
    coordinateShadowUpdate | updateShadow }

```

END

12. Editor's Response:

(any material proposed for processing as an erratum to, an amendment to, or a commentary on the IS or DIS final text/ITU Recommendation or Draft Recommendation is attached separately to this completed report).