

Title : Public Personal Handy-Phone System: Specifications of Interface
between Personal Station and Public Cell Station (Common Air
Interface)

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Public Personal Handy-Phone System: Specification of Interface between Personal Station and Public Cell Station (Common Air Interface)

The same specification as is specified in ARIB STANDARD RCR STD-28 is applied.

And the description of facility information element component coding based on ITU-T Recommendation X.680 is added as Annex A in this specification. This description is same as that in B-IF2.01, and is just for the information.

Annex A

Facility Information Element Component Coding

The ASN.1 module for facility information element component using Abstract Syntax Notation One (ASN.1) based on ITU-T Recommendation X.680 is defined as follows.

```
Facility-Information-Element-Component-Version1
{itu-t(0) administration(2) japan(440) isdn(102) phs(4) module(0) facility-information-element-
component(2) version1(1)}
```

```
DEFINITIONS ::=
```

```
BEGIN
```

```
-- EXPORTS EVERYTHING
```

```
IMPORTS
```

```
ROS {} FROM
```

```
Remote-Operations-Generic-ROS-PDUs {joint-iso-itu-t remote-operations(4) generic-ROS-PDUs(6)
version1(0)}
```

```
OPERATION FROM
```

```
Remote-Operations-Information-Objects {joint-iso-itu-t remote-operations(4) informationObjects(5)
version1(0)}
```

```
;
```

```
--Component definition
```

```
--Operation and error of each supplemently survice are defined using remote-operation-
informationm-
```

```
--object-class notation in other recomendation.
```

```
Component{OPERATION:Invokable,OPERATION:Returnable} ::=
```

```
ROS{InvokeIdentifierType,{Invokable},{Returnable}}
```

```
-- This type is parametrized in that the valuse conveyed in the component portion depend on the set of
-- operations which can be invoked and the set of operations for which a response may be generated.
```

```
InvokeIdentifierType ::= INTEGER(-32768..32767)
```

```
END -- of Facility-Information-Element-Component-Version1
```

The generic ROS PDU is defined as follows. The definition is the same as the one provided in ITU-T Recommendation X.880 and is only provided here for convinience to the user.

```
Remote-Operations-Generic-ROS-PDUs {joint-iso-itu-t remote-operations(4) generic-ROS-PDUs(6)
version1(0)}
```

```
DEFINITIONS IMPLICIT TAGS ::=
```

```
BEGIN
```

```
-- exports everything
```

IMPORTS OPERATION, ERROR FROM Remote-Operations-Information-Objects {joint-iso-itu-t remote-operations(4) informationObjects(5) version1(0)};

```
ROS {InvokeId:InvokeIdSet, OPERATION:Invokable, OPERATION:Returnable} ::= CHOICE
{
    invoke      [1] Invoke {{InvokeIdSet}, {Invokable}},
    returnResult [2] ReturnResult {{Returnable}},
    returnError [3] ReturnError {{Errors{{Returnable}}}},
    reject      [4] Reject
}
(CONSTRAINED BY {-- must conform to the above definition --}
! RejectProblem : general-unrecognizedPDU)
```

```
Invoke {InvokeId:InvokeIdSet, OPERATION:Operations} ::= SEQUENCE
{
    invokeId      InvokeId (InvokeIdSet)
                    (CONSTRAINED BY {-- must be unambiguous --}
                    ! RejectProblem : invoke-duplicateInvocation),
    linkedId      CHOICE {
                    present [0] IMPLICIT present < InvokeId,
                    absent  [1] IMPLICIT NULL
                    }
                    (CONSTRAINED BY {-- must identify an outstanding operation -
-}
                    ! RejectProblem : invoke-unrecognizedLinkId)
                    (CONSTRAINED BY {-- which has one or more linked operations
--}
                    ! RejectProblem : invoke-linkedResponseUnexpected)
                    OPTIONAL,
    opcode        OPERATION.&operationCode
                    ({Operations}
                    ! RejectProblem : invoke-unrecognizedOperation),
    argument      OPERATION.&ArgumentType
                    ({Operations} {@opcode}
                    ! RejectProblem : invoke-mistypedArgument)
                    OPTIONAL
}
(CONSTRAINED BY {-- must conform to the above definition --}
! RejectProblem : general-mistypedPDU)
(
    WITH COMPONENTS
    {...,
    linkedId ABSENT
    }
|
    WITH COMPONENTS
    {...,
    linkedId PRESENT,
    opcode
    (CONSTRAINED BY {-- must be in the & Linked field of the associated operation --}
    ! RejectProblem : invoke-unexpectedLinkedOperation)
    }
)
)
```

```

ReturnResult {OPERATION:Operations} ::= SEQUENCE
{
    invokeId    InvokeId
                (CONSTRAINED BY      {-- must be that for an outstanding
operation --}
                ! RejectProblem    : returnResult-unrecognizedInvocation)
                (CONSTRAINED BY      {-- which returns a result --}
                ! RejectProblem    : returnResult-resultResponseUnexpected),
    result      SEQUENCE
    {
        opcode   OPERATION.&operationCode
                ({Operations})(CONSTRAINED BY {-- identified by invokeId --}
                ! RejectProblem    : returnResult-unrecognizedInvocation),
        result    OPERATION.&ResultType
                ({Operations} { @opcode}
                ! RejectProblem    : returnResult-mistypedResult)
    }
    OPTIONAL
}
(CONSTRAINED BY      {-- must conform to the above definition --}
! RejectProblem    : general-mistypedPDU)

ReturnError {ERROR:Errors} ::= SEQUENCE
{
    invokeId    InvokeId
                (CONSTRAINED BY      {-- must be that for an outstanding
operation --}
                ! RejectProblem    : returnError-unrecognizedInvocation)
                (CONSTRAINED BY      {-- which returns an error --}
                ! RejectProblem    : returnError-errorResponseUnexpected),
    errcode     ERROR.&errorCode
                ({Errors}
                ! RejectProblem : returnError-unrecognizedError)
                (CONSTRAINED BY      {-- must be in the & errors field of the
associated operation --}
                ! RejectProblem : returnError-unexpectedError),
    parameter   ERROR.&ParameterType
                ({Errors} { @errcode}
                ! RejectProblem : returnError-mistypedParameter) OPTIONAL
}
(CONSTRAINED BY      {-- must conform to the above definition --}
! RejectProblem    : general-mistypedPDU)

Reject ::= SEQUENCE
{
    invokeId    InvokeId,
    problem     CHOICE
    {
        general   [0] GeneralProblem,
        invoke    [1] InvokeProblem,
        returnResult [2] ReturnResultProblem,
        returnError [3] ReturnErrorProblem
    }
}

```

```

}
(CONSTRAINED BY      {-- must conform to the above definition --}
! RejectProblem    : general-mistypedPDU)

GeneralProblem ::= INTEGER
{
    unrecognizedPDU (0),
    mistypedPDU (1),
    badlyStructuredPDU (2)
}

InvokeProblem ::= INTEGER
{
    duplicateInvocation (0),
    unrecognizedOperation (1),
    mistypedArgument (2),
    resourceLimitation (3),
    releaseInProgress (4),
    unrecognizedLinkId (5),
    linkedResponseUnexpected (6),
    unexpectedLinkedOperation (7)
}

ReturnResultProblem ::= INTEGER
{
    unrecognizedInvocation (0),
    resultResponseUnexpected (1),
    mistypedResult (2)
}

ReturnErrorProblem ::= INTEGER
{
    unrecognizedInvocation (0),
    errorResponseUnexpected (1),
    unrecognizedError (2),
    unexpectedError (3),
    mistypedParameter (4)
}

RejectProblem ::= INTEGER
{
    general-unrecognizedPDU (0),
    general-mistypedPDU (1),
    general-badlyStructuredPDU (2),
    invoke-duplicateInvocation (10),
    invoke-unrecognizedOperation (11),
    invoke-mistypedArgument (12),
    invoke-resourceLimitation (13),
    invoke-releaseInProgress (14),
    invoke-unrecognizedLinkId (15),
    invoke-linkedResponseUnexpected (16),
    invoke-unexpectedLinkedOperation (17),
    returnResult-unrecognizedInvocation (20),
    returnResult-resultResponseUnexpected (21),
    returnResult-mistypedResult (22),
    returnError-unrecognizedInvocation (30),

```

```

        returnError-errorResponseUnexpected (31),
        returnError-unrecognizedError (32),
        returnError-unexpectedError (33),
        returnError-mistypedParameter (34)
    }
InvokeId ::= CHOICE
{
    present INTEGER,
    absent NULL
}
noInvokeId InvokeId ::= absent:NULL
NoInvokeId InvokeId ::= {noInvokeId}
Errors {OPERATION:Operations} ERROR ::= {Operations.&Errors}
Bind {OPERATION:operation} ::= CHOICE
{
    bind-invoke [16] OPERATION.&ArgumentType({operation}),
    bind-result [17] OPERATION.&ResultType ({operation}),
    bind-error [18] OPERATION.&Errors.&ParameterType ({operation})
}
Unbind {OPERATION:operation} ::= CHOICE
{
    unbind-invoke [19] OPERATION.&ArgumentType({operation}),
    unbind-result [20] OPERATION.&ResultType ({operation}),
    unbind-error [21] OPERATION.&Errors.&ParameterType ({operation})
}
END -- end of generic ROS PDU definition

```