3GPP TSG CN Plenary Meeting #18 **NP-020621**
4th - 6th December 2002. New Orleans, USA.

Source: TSG CN WG3

Title: CRs on Rel5 Work Item e2eQoS (CR Pack2)

Agenda item: 8.5

Document for: APPROVAL

Introduction:

This document contains **6** CRs on **Rel-5 WI e2eQoS**.

These CRs have been agreed by TSG CN WG3 and are forwarded to TSG CN Plenary meeting #18 for approval.

WG_tdoc	Title	Spec	CR	Rev	Cat	Rel	Version_old
N3-020776	Go PIB revision and update	29.207	035		F	Rel-5	5.1.0
N3-020877	Go PIB revision and update	29.207	050		F	Rel-5	5.1.0
N3-020985	Re-Using filters from the IETF	29.207	053	1	F	Rel-5	5.1.0
N3-020987	IANA numbers: COPS client-type and	29.207	057	1	F	Rel-5	5.1.0
N3-020989	PIB references and clarifications	29.207	059	1	F	Rel-5	5.1.0
N3-021022	Go PIB clarifications	29.207	071	2	F	Rel-5	5.1.0

3GPP TSG-CN WG3 Meeting #25 ***Tdoc ⌘N3-020776***
Miami Beach, USA, 23rd – 27th September 2002.

CR-Form-v7

CHANGE REQUEST

⌘ **29.207** **CR** **035** ⌘ **rev** **-** ⌘ Current version: **5.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Go PIB revision and update
Source:	⌘	TSG_CN WG3
Work item code:	⌘	E2EQOS
Date:	⌘	23/09/2002
Category:	⌘	**F**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change: ⌘ The IETF OPS Area Director made to the authors of the go-PIB the following comments that have been addressed in the present contribution:

- the REVISION clause is invalid syntax. It needs a timespamp according to SPPI (RFC3159) and any text needs to go in a DESCRIPTION clasue.
- references to [INETADDR] in Go PIB should be done with a REFERENCE clause
- go3gppRprtGPRSChrgInfoEntry is using an InetAddress type without an acompanying InetAddressType which is required as per the INET-ADDRESS-MIB from which you import the InetAddress TC

Summary of change: ⌘ The comments by the IETF OPS Area Director have been addressed.

1. Modified "pib" to "3gpp_pib" at the IMPORT section.

2. Updated the LAST-UPDATED and REVISION sections.

4. Changed go3gppIpFilterProtocol to use Unsigned32 from Integer32. Changed its description clause to use IETF/IANA defined usage for "Match-All" indication for both IPv4 and IPv6.

5. Added REFERENCE clause for all usage of [INETADDR] references.

6. Added go3gppRprtGPRSChrgInfoAddrType to indicate the type of address specified by go3gppRprtGPRSChrgInfoGGSNAddr. Also added this attribute to the Conformance Section of PIB.

Consequences if ⌘ The go-PIB will not be aligned with the IETF recommendations for PIBs.

not approved:	

Clauses affected:	⌘	Annex B.			
		Y	**N**		
Other specs Affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

First amended section

Annex B (normative): 3GPP Go PIB

```
GO3GPP-PIB  PIB-DEFINITIONS ::= BEGIN

IMPORTS
    Unsigned32, Integer32, MODULE-IDENTITY,
    MODULE-COMPLIANCE, OBJECT-TYPE, OBJECT-GROUP, pib
            FROM COPS-PR-SPPI
    InstanceId, Prid
            FROM COPS-PR-SPPI-TC

    InetAddress, InetAddressType,
    InetAddressPrefixLength, InetPortNumber
            FROM INET-ADDRESS-MIB

   DscpOrAny
         FROM DIFFSERV-DSCP-TC
     ;

go3gppPib  MODULE-IDENTITY
    SUBJECT-CATEGORIES   { go3gpp (xx) } -- Go 3GPP COPS Client Type
                                         -- xx to be assigned by IANA
    LAST-UPDATED "200209280000Z 200208012200Z"
    ORGANIZATION "3GPP TSG CN WG3"
    CONTACT-INFO
                "Kwok Ho Chan
                 Nortel Networks
                 600 Technology Park Drive
                 Billerica, MA 01821 USA
                 Phone: +1 978 288 8175
                 Email: khchan@nortelnetworks.com

                 Louis-Nicolas Hamer
                 Nortel Networks
                 PO Box 3511 Station C
                 Ottawa, Ontario
                 Canada, K1Y 4H7
                 Phone: +1 613 768 3409
                 Email: nhamer@nortelnetworks.com"
    DESCRIPTION
            "A PIB module containing the set of provisioning
            classes that are required for support of policies for
            3GPP's GO interface, Release 5."
    REVISION "200209280000Z Release 5, v.1 "
    DESCRIPTION
            "The is is version 1 of the 3GPP Go PIB for release 5.
              Annex B of 3GPP TS 29.207 v5.12.0"

    ::= { pib xxx } -- xxx to be assigned by IANA


--
-- The root OID for PRCs in the 3GPP GO PIB
--

go3gppCapabilityClasses      OBJECT IDENTIFIER ::= { go3gppPib 1 }
go3gppEventHandlerClasses    OBJECT IDENTIFIER ::= { go3gppPib 2 }
go3gppEventClasses           OBJECT IDENTIFIER ::= { go3gppPib 3 }
go3gppEventInfoClasses       OBJECT IDENTIFIER ::= { go3gppPib 4 }
go3gppReqInfoClasses         OBJECT IDENTIFIER ::= { go3gppEventInfoClasses 1 }
go3gppDecInfoClasses         OBJECT IDENTIFIER ::= { go3gppEventInfoClasses 2 }
go3gppReportClasses          OBJECT IDENTIFIER ::= { go3gppPib 5 }
go3gppConformance            OBJECT IDENTIFIER ::= { go3gppPib 6 }



-- ------------------------------------------------------------
```

```
   --
   -- Capability and Limitation Policy Rule Classes
   --

   --
   -- 3GPP GO Capability Table
   --

   go3gppAuthReqCapTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppAuthReqCapEntry
       PIB-ACCESS     notify
       STATUS         current
       DESCRIPTION
           "The 3GPP Go Authorization Request Capability PRC."
       ::= { go3gppCapabilityClasses 1 }


   go3gppAuthReqCapEntry OBJECT-TYPE
       SYNTAX         Go3gppAuthReqCapEntry
       STATUS         current
       DESCRIPTION
           "An instance of the go3gppAuthReqCap class identifies a
           specific PRC and associated attributes as supported
           by the device."

       PIB-INDEX { go3gppAuthReqCapPrid }
       UNIQUENESS { }
       ::= { go3gppAuthReqCapTable 1 }


   Go3gppAuthReqCapEntry ::= SEQUENCE {
           go3gppAuthReqCapPrid          InstanceId,
           go3gppAuthReqCapBindingInfos  Unsigned32,
           go3gppAuthReqCapFlowIds       Unsigned32
   }


   go3gppAuthReqCapPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppAuthReqCap class."
       ::= { go3gppAuthReqCapEntry 1 }


   go3gppAuthReqCapBindingInfos OBJECT-TYPE
       SYNTAX         Unsigned32
       STATUS         current
       DESCRIPTION
           "Indication of the maximum number of Binding Information
           the PEP can send with each Authorization Request.
           The value of zero indicates limit is not specified."
       DEFVAL  { 0 }
       ::= { go3gppAuthReqCapEntry 2 }


   go3gppAuthReqCapFlowIds OBJECT-TYPE
       SYNTAX         Unsigned32
       STATUS         current
       DESCRIPTION
           "Indication of the maximum number of Flow IDs the PEP can
           send with each Authorization Request.
           The value of zero indicates limit is not specified."
       DEFVAL  { 0 }
       ::= { go3gppAuthReqCapEntry 3 }


--
-- Go 3GPP Authorization Request Decision Capabilities
--

   go3gppAuthReqDecCapTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppAuthReqDecCapEntry
       PIB-ACCESS     notify
       STATUS         current
       DESCRIPTION
           "The 3GPP Go Authorization Request Decision Capability PRC."
```

```
    ::= { go3gppCapabilityClasses 2 }


go3gppAuthReqDecCapEntry OBJECT-TYPE
    SYNTAX         Go3gppAuthReqDecCapEntry
    STATUS         current
    DESCRIPTION
        "An instance of the go3gppAuthReqDecCap class identifies a
        specific PRC and associated attributes as supported
        by the device."

    PIB-INDEX { go3gppAuthReqDecCapPrid }
    UNIQUENESS { }
    ::= { go3gppAuthReqDecCapTable 1 }


Go3gppAuthReqDecCapEntry ::= SEQUENCE {
        go3gppAuthReqDecCapPrid           InstanceId,
        go3gppAuthReqDecCapIcids          Unsigned32
}

go3gppAuthReqDecCapPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of the go3gppAuthReqDecCap class."
    ::= { go3gppAuthReqDecCapEntry 1 }

go3gppAuthReqDecCapIcids OBJECT-TYPE
    SYNTAX         Unsigned32
    STATUS         current
    DESCRIPTION
        "Indication of the maximum number of Icid possible
        in a single Authorization Request Decision.
        The value of zero indicates limit is not specified."
    DEFVAL  { 0 }
    ::= { go3gppAuthReqDecCapEntry 2 }




--
-- Component Limitations Table
--
-- This table supports the ability to export information
-- detailing provisioning class/attribute implementation limitations
-- to the policy control function. This Component Limitiations Table
-- shall be implementation dependant and does not need to be standardized.


-- ------------------------------------------------------------
--
-- 3GPP GO Event Handler Provisioning Classes
--
-- PRCs sent from PCF to PEP for indicating how to handle each
-- kind of event that require actions by the GO interface.
--
-- For 3GPP Release 5, PRCs for Event Handling of Authorization
-- Request containing Binding Information, Flow IDs, and QoS is
-- specified.
--

--
-- 3GPP GO Authorization Request Event Handler Provisioning Table
--

go3gppAuthReqHandlerTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppAuthReqHandlerEntry
    PIB-ACCESS     install
    STATUS         current
    DESCRIPTION
        "PRC from PCF to PEP carried by COPS DEC messages
        indicating GO actions to take at the GGSN when an Authorization
        Request Event is detected by the GGSN.  An example of an
        Authorization Request Event is the receive of a PDP Context message."
    ::= { go3gppEventHandlerClasses 1 }
```

```
go3gppAuthReqHandlerEntry OBJECT-TYPE
    SYNTAX         Go3gppAuthReqHandlerEntry
    STATUS         current
    DESCRIPTION
        "An instance of the go3gppAuthReqHandler class sent by the PCF to
        the PEP what the PEP should send upon detection of an Authorization
        Request Event."
    PIB-INDEX { go3gppAuthReqHandlerPrid }
    UNIQUENESS { go3gppAuthReqHandlerEnable,
                 go3gppAuthReqHandlerBindingInfo
               }
    ::= { go3gppAuthReqHandlerTable 1 }


Go3gppAuthReqHandlerEntry ::= SEQUENCE {
        go3gppAuthReqHandlerPrid         InstanceId,
        go3gppAuthReqHandlerEnable       INTEGER,
        go3gppAuthReqHandlerBindingInfo  Unsigned32
}


go3gppAuthReqHandlerPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of this class."
    ::= { go3gppAuthReqHandlerEntry 1 }


go3gppAuthReqHandlerEnable OBJECT-TYPE
    SYNTAX         INTEGER {
                       enable(1),
                       disable(2)
                   }
    STATUS         current
    DESCRIPTION
        "Controls the usage of 3GPP Authorization Request Events
        to trigger COPS requests to PCF on the go interface."
    DEFVAL { enable }
    ::= { go3gppAuthReqHandlerEntry 2 }


go3gppAuthReqHandlerBindingInfo OBJECT-TYPE
    SYNTAX         Unsigned32
    STATUS         current
    DESCRIPTION
        "Indication of the maximum number of Binding Information
        be associated with a each Authorizating Request.
        The value of zero indicates policy control does not impose
        any limit."
    DEFVAL  { 0 }
    ::= { go3gppAuthReqHandlerEntry 3 }



-- ------------------------------------------------------------
--
-- 3GPP GO Event Classes
--
-- PRCs from PEP to PCF carried by COPS REQ messages
-- indicating the detection of specific events in the GGSN.
-- Information required for PCF to make decision on behave
-- of GGSN is also defined here to be carried by REQ messages.
--

--
-- 3GPP GO Authorization Request Event Table
--
go3gppAuthReqEventTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppAuthReqEventEntry
    PIB-ACCESS     notify
    STATUS         current
    DESCRIPTION
        "PRC for indication of Authorization Request Event
        and its relevant information.
        Sent by PEP to PCF upon receive of an Authorization
```

```
        Request.  Using COPS REQ message."
    ::= { go3gppEventClasses 1 }


go3gppAuthReqEventEntry OBJECT-TYPE
    SYNTAX         Go3gppAuthReqEventEntry
    STATUS         current
    DESCRIPTION
        "An entry in the Authorization Request Event Table
        describe a single Event sent by the PEP to the PCF."
    PIB-INDEX { go3gppAuthReqEventPrid }
    UNIQUENESS { }
    ::= { go3gppAuthReqEventTable 1 }


Go3gppAuthReqEventEntry ::= SEQUENCE {
        go3gppAuthReqEventPrid         InstanceId,
        go3gppAuthReqEventBindingInfos Prid
}


go3gppAuthReqEventPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of the go3gppAuthReqEvent class."
    ::= { go3gppAuthReqEventEntry 1 }


go3gppAuthReqEventBindingInfos OBJECT-TYPE
    SYNTAX         Prid
    STATUS         current
    DESCRIPTION
        "References the first of a list of go3gppBindingInfo
        class instances that are associated with this
        Authorization Request Event.
        A value of zeroDotZero indicates there are no
        go3gppBindingInfo class instance associated with
        this Authorization Event."
    ::= { go3gppAuthReqEventEntry 2 }


--
-- 3GPP Go Event Request Info Classes
--

--
-- 3GPP GO Binding Information Table
--
go3gppBindingInfoTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppBindingInfoEntry
    PIB-ACCESS     notify
    STATUS         current
    DESCRIPTION
        "PRC representing Binding Information.
        Sent by PEP to PCF as part of an Authorization
        Request.  In a COPS REQ message."
    ::= { go3gppReqInfoClasses 1 }


go3gppBindingInfoEntry OBJECT-TYPE
    SYNTAX         Go3gppBindingInfoEntry
    STATUS         current
    DESCRIPTION
        "An entry in the Binding Information Table
        describing a single Binding Info.
        Each entry is referenced by go3gppAuthReqEventBindingInfos
        or go3gppBindingInfoNext."
    PIB-INDEX { go3gppBindingInfoPrid }
    UNIQUENESS { }
    ::= { go3gppBindingInfoTable 1 }


Go3gppBindingInfoEntry ::= SEQUENCE {
        go3gppBindingInfoPrid          InstanceId,
        go3gppBindingInfoToken         OCTET STRING,
        go3gppBindingInfoFlowIds       Prid,
```

```
        go3gppBindingInfoNext          Prid
}


go3gppBindingInfoPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of the go3gppBindingInfo class."
    ::= { go3gppBindingInfoEntry 1 }


go3gppBindingInfoToken OBJECT-TYPE
    SYNTAX         OCTET STRING
    STATUS         current
    DESCRIPTION
        "The Authorization Token associated with this
        instance of the go3gppBindingInfo class.
        Each Binding Information must have a Token."
    ::= { go3gppBindingInfoEntry 2 }


go3gppBindingInfoFlowIds OBJECT-TYPE
    SYNTAX         Prid
    STATUS         current
    DESCRIPTION
        "References the first of a list of FlowIds associated
        with this instance of go3gppBindingInfo class.
        This is the anchor of a list of go3gppFlowIdEntry
        Instances.
        A value of zeroDotZero indicates an empty list which
        is an error condition."
    DEFVAL  { zeroDotZero }
    ::= { go3gppBindingInfoEntry 3 }


go3gppBindingInfoNext OBJECT-TYPE
    SYNTAX         Prid
    STATUS         current
    DESCRIPTION
        "References the next of a list of go3gppBindingInfo
        instances associated with an Authorization Request.
        A value of zeroDotZero indicates this is the last of
        a list of go3gppBindingInfo instances associated with
        an Authorization Request."
    DEFVAL  { zeroDotZero }
    ::= { go3gppBindingInfoEntry 4 }


--
-- 3GPP Go Authorization Request FlowID Table
--
go3gppFlowIdTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppFlowIdEntry
    PIB-ACCESS     notify
    STATUS         current
    DESCRIPTION
        "Represents the collection of FlowIDs."
    ::= { go3gppReqInfoClasses 2 }


go3gppFlowIdEntry OBJECT-TYPE
    SYNTAX         Go3gppFlowIdEntry
    STATUS         current
    DESCRIPTION
        "Each entry describes a single FlowID."
    PIB-INDEX { go3gppFlowIdPrid }
    UNIQUENESS { }
    ::= { go3gppFlowIdTable 1 }


Go3gppFlowIdEntry ::= SEQUENCE {
        go3gppFlowIdPrid         InstanceId,
        go3gppFlowIdFlowId       Unsigned32,
        go3gppFlowIdNext         Prid
}
```

```
   go3gppFlowIdPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppFlowId class."
       ::= { go3gppFlowIdEntry 1 }


   go3gppFlowIdFlowId OBJECT-TYPE
       SYNTAX         Unsigned32
       STATUS         current
       DESCRIPTION
           "The FlowId itself."
       ::= { go3gppFlowIdEntry 2 }


   go3gppFlowIdNext OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "References the next FlowId in the list associated with the
           same Binding Information of an Authorization Request.
           This points to a list of go3gppFlowIdEntry Instances.
           A value of zeroDotZero indicates end of the list."
       DEFVAL  { zeroDotZero }
       ::= { go3gppFlowIdEntry 3 }



   -- ------------------------------------------------------------
   --
   -- 3GPP Go Authorization Request Decisions
   --
   -- PRCs for carrying the Event Decision send from PCF to PEP,
   -- carried by the COPS DEC message.
   -- These PRCs include support for Gates/Filters, QoS, ICIDs.
   --


   -- We can define Failure Decisions by use of COPS-PR DEC message
   -- containing first an install decision (with objects indicating
   -- what failed and some indication to the GGSN how to react to this
   -- Error Decision), and second a remove decision (for cleanup of
   -- the installed Error Decision Object).
   --

-- Failures indicated by PCF to GGSN
--   Authorization Failure
--
   --
   -- Authorization Request Failure Decision Table
   --
   go3gppAuthReqFailDecTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppAuthReqFailDecEntry
       PIB-ACCESS     install
       STATUS         current
       DESCRIPTION
           "The Authorization failure Table. Indicates failures decisions to the PEP."
       ::= { go3gppDecInfoClasses 1 }


   go3gppAuthReqFailDecEntry OBJECT-TYPE
       SYNTAX         Go3gppAuthReqFailDecEntry
       STATUS         current
       DESCRIPTION
           "Each go3gppAuthReqFailDecEntry is per request."
       PIB-INDEX { go3gppAuthReqFailDecPrid }
       UNIQUENESS { }
       ::= { go3gppAuthReqFailDecTable 1 }


   Go3gppAuthReqFailDecEntry ::= SEQUENCE {
           go3gppAuthReqFailDecPrid        InstanceId,

           go3gppAuthReqFailDecReason      INTEGER
   }
```

```
go3gppAuthReqFailDecPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of the go3gppAuthReqFailDec class."
    ::= { go3gppAuthReqFailDecEntry 1 }


go3gppAuthReqFailDecReason OBJECT-TYPE
    SYNTAX         INTEGER {
                                        noCorrespondingImsSession (1),
                                        invalidBundling (2)
                            }
    STATUS         current
    DESCRIPTION
        "Reason for Auth Request Failure Decision given by PCF:

         noCorrespondingImsSession:    No corresponding IMS Session was found
                                       by the PCF

         invalidBundling:              In case the UE violates the IMS level indication,
                                       and  attempts to set up multiple IMS media components
                                       in a single PDP context despite of an indication that
                                       mandated separate PDP contexts."
    ::= { go3gppAuthReqFailDecEntry 2 }


--
-- Authorization Request Decision Table
--
go3gppAuthReqDecTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppAuthReqDecEntry
    PIB-ACCESS     install
    STATUS         current
    DESCRIPTION
        "The Authorization Request Decision Table. "
    ::= { go3gppDecInfoClasses 2 }


go3gppAuthReqDecEntry OBJECT-TYPE
    SYNTAX         Go3gppAuthReqDecEntry
    STATUS         current
    DESCRIPTION
        "Each go3gppAuthReqDecEntry is per Authorization Request."
    PIB-INDEX { go3gppAuthReqDecPrid }
    UNIQUENESS { }
    ::= { go3gppAuthReqDecTable 1 }


Go3gppAuthReqDecEntry ::= SEQUENCE {
        go3gppAuthReqDecPrid       InstanceId,
        go3gppAuthReqDecIcids      Prid,
        go3gppAuthReqDecDirDecs    Prid
}


go3gppAuthReqDecPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of the go3gppAuthReqDec class."
    ::= { go3gppAuthReqDecEntry 1 }


go3gppAuthReqDecIcids OBJECT-TYPE
    SYNTAX         Prid
    STATUS         current
    DESCRIPTION
        "References the first of a list of IcIDs associated
        with this instance of go3gppAuthReqDec class.
        There should be one IcID on this list for each Binding
        Information in the corresponding Authorization Request.
        A value of zeroDotZero indicates an empty list and there
```

```
            is no IcID change associated with this Authorization Request
            Decision."
        DEFVAL  { zeroDotZero }
        ::= { go3gppAuthReqDecEntry 2 }


    go3gppAuthReqDecDirDecs OBJECT-TYPE
        SYNTAX          Prid
        STATUS          current
        DESCRIPTION
            "References the first of a list of Directional Decisions
            associated with this instance of go3gppAuthReqDec class.
            There should be at least one and at most two Directional
            Decisions per Authorization Request Decision.
            Hence a value of zeroDotZero is illegal."
        ::= { go3gppAuthReqDecEntry 3 }


--
-- 3GPP Go ICID Table
--
    go3gppIcidTable OBJECT-TYPE
        SYNTAX          SEQUENCE OF Go3gppIcidEntry
        PIB-ACCESS      install
        STATUS          current
        DESCRIPTION
            "Represents the collection of ICID entries"
        ::= { go3gppDecInfoClasses 3 }


    go3gppIcidEntry OBJECT-TYPE
        SYNTAX          Go3gppIcidEntry
        STATUS          current
        DESCRIPTION
            "Represents the ICID Entry"
        PIB-INDEX { go3gppIcidPrid }
        UNIQUENESS { go3gppIcidValue }
        ::= { go3gppIcidTable 1 }


    Go3gppIcidEntry ::= SEQUENCE {
            go3gppIcidPrid            InstanceId,
            go3gppIcidValue           OCTET STRING,
            go3gppIcidNext            Prid
    }


    go3gppIcidPrid OBJECT-TYPE
        SYNTAX          InstanceId
        STATUS          current
        DESCRIPTION
            "An arbitrary integer index that uniquely identifies an
            instance of the go3gppIcid class."
        ::= { go3gppIcidEntry 1 }


    go3gppIcidValue OBJECT-TYPE
        SYNTAX          OCTET STRING
        STATUS          current
        DESCRIPTION
            "The ICID itself. The syntax of this OBJECT-TYPE needs to be confirmed. "
        ::= { go3gppIcidEntry 2 }


    go3gppIcidNext OBJECT-TYPE
        SYNTAX          Prid
        STATUS          current
        DESCRIPTION
            "References the next go3gppIcidEntry of a list of IcIDs
            associated with this instance of go3gppAuthReqDec class.
            There should be one IcID on this list for each Binding
            Information in the corresponding Authorization Request.
            A value of zeroDotZero indicates the end of the list of
            IcIDs associated with an Authorization Request Decision."
        DEFVAL  { zeroDotZero }
        ::= { go3gppIcidEntry 3 }
```

```
--
-- 3GPP Go Authorization Request Directional Decision Table
--
   go3gppAuthReqDirDecTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppAuthReqDirDecEntry
       PIB-ACCESS     install
       STATUS         current
       DESCRIPTION
           "This table represents the authorization request decision for a  unique direction (e.g.
uplink and downlink)."
       ::= { go3gppDecInfoClasses 4 }


   go3gppAuthReqDirDecEntry OBJECT-TYPE
       SYNTAX         Go3gppAuthReqDirDecEntry
       STATUS         current
       DESCRIPTION
           "There should be one of these per direction per AuthReqDec."
       PIB-INDEX { go3gppAuthReqDirDecPrid }
       UNIQUENESS { }
       ::= { go3gppAuthReqDirDecTable 1 }


   Go3gppAuthReqDirDecEntry ::= SEQUENCE {
           go3gppAuthReqDirDecPrid      InstanceId,
           go3gppAuthReqDirDecDirection INTEGER,
           go3gppAuthReqDirDecQos       Prid,
           go3gppAuthReqDirDecGates     Prid,
           go3gppAuthReqDirDecNext      Prid
   }


   go3gppAuthReqDirDecPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppAuthReqDirDec class."
       ::= { go3gppAuthReqDirDecEntry 1 }


   go3gppAuthReqDirDecDirection OBJECT-TYPE
       SYNTAX         INTEGER {
                           uplink   (1),
                           downlink (2)
                      }
       STATUS         current
       DESCRIPTION
           "Indicates the direction this decision applies to."
       ::= { go3gppAuthReqDirDecEntry 2 }


   go3gppAuthReqDirDecQos OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           " The Authorized QoS. References the go3gppQos class."
       ::= { go3gppAuthReqDirDecEntry 3 }


   go3gppAuthReqDirDecGates OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "References the first instance of a list of the go3gppGate class."
       ::= { go3gppAuthReqDirDecEntry 4 }


   go3gppAuthReqDirDecNext OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "References the next instance of a list of
           go3gppAuthReqDirDec class."
       ::= { go3gppAuthReqDirDecEntry 5 }


--
```

```
-- 3GPP Go QoS Table
--
   go3gppQosTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppQosEntry
       PIB-ACCESS     install
       STATUS         current
       DESCRIPTION
           "This table represents the Authorised QoS. It is referenced by the go3gppAuthReqDirDecQos
entry of the go3gppAuthReqDirDecEntry  class."
       ::= { go3gppDecInfoClasses 5 }


   go3gppQosEntry OBJECT-TYPE
       SYNTAX         Go3gppQosEntry
       STATUS         current
       DESCRIPTION
           "There should be one of these per direction per AuthReqDec."
       PIB-INDEX { go3gppQosPrid }
       UNIQUENESS { }
       ::= { go3gppQosTable 1 }



   Go3gppQosEntry ::= SEQUENCE {
           go3gppQosPrid               InstanceId,
           go3gppQosServiceClass       DscpOrAny,
           go3gppQosDataRateUnit       INTEGER,
           go3gppQosDataRate           Unsigned32
   }


   go3gppQosPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppQos class."
       ::= { go3gppQosEntry 1 }



   go3gppQosServiceClass OBJECT-TYPE
       SYNTAX         DscpOrAny
       STATUS         current
       DESCRIPTION
           "A Service Class Indication using DSCP Encoding."
       ::= { go3gppQosEntry 2 }


   go3gppQosDataRateUnit OBJECT-TYPE
       SYNTAX         INTEGER {
                        bps     (1),
                        kbps    (2),
                        Mbps    (3)
                      }
       STATUS         current
       DESCRIPTION
           "Indication of the unit of measure for go3gppQosDataRate."
       ::= { go3gppQosEntry 3 }


   go3gppQosDataRate OBJECT-TYPE
       SYNTAX         Unsigned32
       STATUS         current
       DESCRIPTION
           "The Data Rate with unit of measure indicated by
           go3gppQosDataRateUnit."
       ::= { go3gppQosEntry 4 }



--
-- 3GPP Go Gate Decision Table
--
--
-- There could be one of these per direction per GateDec.
--
-- This is for changing Gating Status only when used alone
```

```
-- (not as part of Direction Decision).

-- go3gppGateDec is sent in a different COPS DEC message
-- from the DEC message carrying go3gppAuthReqDec.  PCF must
-- have sent a go3gppAuthReqDec before using go3gppGateDec.

   go3gppGateDecTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppGateDecEntry
       PIB-ACCESS     install
       STATUS         current
       DESCRIPTION
           "This table represents an updated gating decision."
       ::= { go3gppDecInfoClasses 6 }


   go3gppGateDecEntry OBJECT-TYPE
       SYNTAX         Go3gppGateDecEntry
       STATUS         current
       DESCRIPTION
           "There should be one of these per direction per AuthReqDec."
       PIB-INDEX { go3gppGateDecPrid }
       UNIQUENESS { }
       ::= { go3gppGateDecTable 1 }



   Go3gppGateDecEntry ::= SEQUENCE {
           go3gppGateDecPrid           InstanceId,
           go3gppGateDecDirection      INTEGER,
           go3gppGateDecGates          Prid,
           go3gppGateDecNext           Prid
   }


   go3gppGateDecPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppGateDec class."
       ::= { go3gppGateDecEntry 1 }



   go3gppGateDecDirection OBJECT-TYPE
       SYNTAX         INTEGER {
                           uplink   (1),
                           downlink (2)
                      }
       STATUS         current
       DESCRIPTION
           "References the gate direction."
       ::= { go3gppGateDecEntry 2 }

    go3gppGateDecGates OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "References the first instance of a list of go3gppGate class."
       ::= { go3gppGateDecEntry 3 }


   go3gppGateDecNext OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "References the next instance of a list of go3gppGateDec class."
       ::= { go3gppGateDecEntry 4 }




--
-- 3GPP Go Gate Table
--
   go3gppGateTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppGateEntry
       PIB-ACCESS     install
```

```
    STATUS         current
    DESCRIPTION
        "PRC representing a Gate."
    ::= { go3gppDecInfoClasses 7 }


go3gppGateEntry OBJECT-TYPE
    SYNTAX         Go3gppGateEntry
    STATUS         current
    DESCRIPTION
        "Each instance represents one Gate."
    PIB-INDEX { go3gppGatePrid }
    UNIQUENESS { }
    ::= { go3gppGateTable 1 }


Go3gppGateEntry ::= SEQUENCE {
        go3gppGatePrid              InstanceId,
        go3gppGateFilter            Prid,
        go3gppGateStatus            INTEGER,
        go3gppGateNext              Prid
}


go3gppGatePrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of the go3gppGate class."
    ::= { go3gppGateEntry 1 }



go3gppGateFilter OBJECT-TYPE
    SYNTAX         Prid
    STATUS         current
    DESCRIPTION
        "References an instance of the go3gppIpFilter class.
        A value of zeroDotZero indicates no go3gppIpFilter is
        used with this go3gppGate."
    ::= { go3gppGateEntry 2 }


go3gppGateStatus OBJECT-TYPE

    SYNTAX         INTEGER {
                        close  (1),
                        open   (2)
                   }
    STATUS         current
    DESCRIPTION
        "Indicates if this gate will allow traffic to flow."
 DEFVAL  { close }
    ::= { go3gppGateEntry 3 }



go3gppGateNext OBJECT-TYPE
    SYNTAX         Prid
    STATUS         current
    DESCRIPTION
        "Reference the next Gate on a list of go3gppGate instances.
        A value of zeroDotZero indicates this is the last Gate
        on the list."
    ::= { go3gppGateEntry 4 }




--
-- The Base Filter Table
--

go3gppBaseFilterTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppBaseFilterEntry
    PIB-ACCESS     install
```

```
    STATUS         current
    DESCRIPTION

        "The Base Filter class.  A packet has to match all
        fields in an Filter.  Wildcards may be specified for those
        fields that are not relevant."

    ::= { go3gppDecInfoClasses 8 }


Go3gppBaseFilterEntry OBJECT-TYPE
    SYNTAX         go3gppBaseFilterEntry
    STATUS         current
    DESCRIPTION
        "An instance of the go3gppBaseFilter class."

    PIB-INDEX { go3gppBaseFilterPrid }
    UNIQUENESS { }       ::= { go3gppBaseFilterTable 1 }

go3gppBaseFilterEntry ::= SEQUENCE {
        go3gppBaseFilterPrid         InstanceId
}


go3gppBaseFilterPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An integer index to uniquely identify this Filter among all
        the Filters."

    ::= { go3gppBaseFilterEntry 1 }


--
-- The Go 3GPP IP Filter Table
--

go3gppIpFilterTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppIpFilterEntry
    PIB-ACCESS     install
    STATUS         current
    DESCRIPTION
        "Filter definitions.  A packet has to match all fields in a
        filter.  Wildcards may be specified for those fields that
        are not relevant."

    ::= { go3gppDecInfoClasses 9 }

go3gppIpFilterEntry OBJECT-TYPE
    SYNTAX         Go3gppIpFilterEntry
    STATUS         current
    DESCRIPTION
        "An instance of the go3gppIpFilter class."

    EXTENDS { go3gppBaseFilterEntry }
    UNIQUENESS {
                go3gppIpFilterAddrType,
                go3gppIpFilterDstAddr,
                go3gppIpFilterDstPrefixLength,
                go3gppIpFilterSrcAddr,
                go3gppIpFilterSrcPrefixLength,
                go3gppIpFilterProtocol,
                go3gppIpFilterDstL4PortMin,
                go3gppIpFilterDstL4PortMax,
                go3gppIpFilterSrcL4PortMin,
                go3gppIpFilterSrcL4PortMax }

    ::= { go3gppIpFilterTable 1 }



Go3gppIpFilterEntry ::= SEQUENCE {
        go3gppIpFilterAddrType         InetAddressType,
        go3gppIpFilterDstAddr          InetAddress,
        go3gppIpFilterDstPrefixLength  InetAddressPrefixLength,
        go3gppIpFilterSrcAddr          InetAddress,
        go3gppIpFilterSrcPrefixLength  InetAddressPrefixLength,
```

```
            go3gppIpFilterProtocol          UnsignedInteger32,
            go3gppIpFilterDstL4PortMin      InetPortNumber,
            go3gppIpFilterDstL4PortMax      InetPortNumber,
            go3gppIpFilterSrcL4PortMin      InetPortNumber,
            go3gppIpFilterSrcL4PortMax      InetPortNumber
    }



    go3gppIpFilterAddrType OBJECT-TYPE

        SYNTAX          InetAddressType
        STATUS          current
        DESCRIPTION
            "The address type enumeration value [INETADDR] to specify
             the type of the packet's IP address."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 1 }

    go3gppIpFilterDstAddr OBJECT-TYPE

        SYNTAX          InetAddress
        STATUS          current
        DESCRIPTION
            "The IP address [INETADDR] to match against the packet's
             destination IP address. go3gppIpFilterDstPrefixLength
             indicates the number of bits that are relevant. "
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 2 }


    go3gppIpFilterDstPrefixLength OBJECT-TYPE
        SYNTAX          InetAddressPrefixLength
        STATUS          current
        DESCRIPTION
            "The length of a mask for the matching of the destination
             IP address.  Masks are constructed by setting bits in
             sequence from the most-significant bit downwards for
             go3gppIpFilterDstPrefixLength bits length. All other bits in
             the mask, up to the  number needed to fill the length of
             the address go3gppIpFilterDstAddr are cleared to zero. A zero
             bit in the mask then means that the corresponding bit in
             the address always matches."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 3 }



    go3gppIpFilterSrcAddr OBJECT-TYPE
        SYNTAX          InetAddress
        STATUS          current
        DESCRIPTION
            "The IP address to match against the packet's source IP
            address. go3gppIpFilterSrcPrefixLength indicates the
           number of bits that are relevant. "
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 4 }

    go3gppIpFilterSrcPrefixLength OBJECT-TYPE
        SYNTAX          InetAddressPrefixLength
        UNITS           "bits"
        STATUS          current


        DESCRIPTION
            "The length of a mask for the matching of the source IP
             address. Masks are constructed by setting bits in sequence
             from the most-significant bit downwards for
             go3gppIpFilterSrcPrefixLength bits length. All other bits in
             the mask, up to the  number needed to fill the length of
             the address go3gppIpFilterSrcAddr are cleared to zero.  A
             zero bit in the mask then means that the corresponding bit
             in the address always matches."
```

```
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 5 }

    go3gppIpFilterProtocol OBJECT-TYPE
        SYNTAX          UnsignedInteger32 (-1 | 0..255)
        STATUS          current
        DESCRIPTION
            "The IP protocol to match against the packet's protocol.
            A value of -1 means match all. The value of 255 for IPv4 and
            value of Next-Header number 0 for IPv6 are reserved by IANA
            as the match-all values."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 6 }

    go3gppIpFilterDstL4PortMin OBJECT-TYPE
        SYNTAX          InetPortNumber
        STATUS          current
        DESCRIPTION
            "The minimum value that the packet's layer 4 destination
            port number can have and match this filter. This value must
            be equal to or lesser that the value specified for this
            filter in go3gppIpFilterDstL4PortMax."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 7 }


    go3gppIpFilterDstL4PortMax OBJECT-TYPE
        SYNTAX          InetPortNumber


        STATUS          current
        DESCRIPTION
            "The maximum value that the packet's layer 4 destination
            port number can have and match this filter. This value must
            be equal to or greater that the value specified for this
            filter in go3gppIpFilterDstL4PortMin."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 8 }


    go3gppIpFilterSrcL4PortMin OBJECT-TYPE
        SYNTAX          InetPortNumber
        STATUS          current
        DESCRIPTION
            "The minimum value that the packet's layer 4 source port
            number can have and match this filter. This value must
            be equal to or lesser that the value specified for this
            filter in go3gppIpFilterSrcL4PortMax."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 9 }


    go3gppIpFilterSrcL4PortMax OBJECT-TYPE
        SYNTAX          InetPortNumber
        STATUS          current
        DESCRIPTION
            "The maximum value that the packet's layer 4 source port
            number can have and match this filter.  This value must be
            equal to or greater that the value specified for this filter
            in go3gppIpFilterSrcL4PortMin."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 10 }




    -- ------------------------------------------------------------
    --
```

```
   -- 3GPP Go Reports
   --
   -- PRCs for carrying the Decision enforcement result sent from PEP to PCF,
   -- carried using the COPS REPORT message.
   -- These PRCs include support for the success or failure of the PEP in
   -- carrying out the PCF's decision or -change of the state in the GGSN.
   --

   go3gppReportTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppReportEntry
       PIB-ACCESS     notify
       STATUS         current
       DESCRIPTION
           "This table represents the success or failure of the decision enforcement and
           state changes in the PEP."
       ::= { go3gppReportClasses 1 }


   go3gppReportEntry OBJECT-TYPE
       SYNTAX         go3gppReportEntry
       STATUS         current
       DESCRIPTION
           ""
       PIB-INDEX { go3gppReportPrid }
       UNIQUENESS { }
       ::= { go3gppReportTable 1 }


   go3gppReportEntry ::= SEQUENCE {
           go3gppReportPrid       InstanceId,
           go3gppReportStatus     INTEGER,
           go3gppReportDetails    Prid }


   go3gppReportPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gpgReport class."
           ::= { go3gppReportEntry 1 }


   go3gppReportStatus OBJECT-TYPE
       SYNTAX         INTEGER {
                                success (1),
                                failure (2),
                                usage   (3) }
       STATUS         current
       DESCRIPTION
           "When Status is:
              success: Indicates the successful implementation of the
                       decision.
                       go3gppReportDetails:
                         Reference an instance of go3gppRprtGPRSChrgInfo
                         for initial authorization request decision;
                         References nothing otherwise (contains the value
                         zeroDotZero).

              Failure: Indicates the failure of implementing the decision.

                       go3gppReportDetails may references an Error object,
or may have the value zeroDotZero when no error
                       object is needed, in which case COPS and COPS-PR
                       error codes and error objects are sufficient.
              Usage:   go3gppReportDetails references an instance of
                       go3gppRprtUsage class."

       ::= { go3gppReportEntry 2 }


   go3gppReportDetails OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "May reference an instance of go3gppRprtGPRSChrgInfo,
           go3gppRprtError(not defined), or go3gppRprtUsage class,
           or may have the value of zeroDotZero depending on the value of
```

```
            go3gppReportStatus."
        ::= { go3gppReportEntry 3 }


    go3gppRprtGPRSChrgInfoTable OBJECT-TYPE
        SYNTAX          SEQUENCE OF Go3gppRprtGPRSChrgInfoEntry
        PIB-ACCESS      notify
        STATUS          current
        DESCRIPTION
            "This table represents the GPRS Charging information"
        ::= { go3gppReportClasses 2 }


    go3gppRprtGPRSChrgInfoEntry OBJECT-TYPE
        SYNTAX          go3gppRprtGPRSChrgInfoEntry
        STATUS          current
        DESCRIPTION
            "This entry represents the GPRS Charging Identifier and GGSN address."
        PIB-INDEX { go3gppRprtGPRSChrgInfoPrid }
        UNIQUENESS { go3gppRprtGPRSChrgInfoAddrType,
                     go3gppRprtGPRSChrgInfoGGSNAddr,
                     go3gppRprtGPRSChrgInfoGCID }
        ::= { go3gppRprtGPRSChrgInfoTable 1 }


    go3gppRprtGPRSChrgInfoEntry ::= SEQUENCE {
            go3gppRprtGPRSChrgInfoPrid       InstanceId,

            go3gppRprtGPRSChrgInfoAddrType   InetAddressType,
            go3gppRprtGPRSChrgInfoGGSNAddr   InetAddress,
            go3gppRprtGPRSChrgInfoGCID       OCTET STRING }


    go3gppRprtGPRSChrgInfoPrid OBJECT-TYPE
        SYNTAX          InstanceId
        STATUS          current
        DESCRIPTION
            "An arbitrary integer index that uniquely identifies an
            instance of the go3gpgRprtGPRSChrgInfo class."
            ::= { go3gppRprtGPRSChrgInfoEntry 1 }

    go3gppRprtGPRSChrgInfoAddrType OBJECT-TYPE
        SYNTAX          InetAddressType
        STATUS          current
        DESCRIPTION
            "The address type enumeration value to specify
             the type of the packet's IP address."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppRprtGPRSChrgInfoEntry 2 }

    go3gppRprtGPRSChrgInfoGGSNAddr OBJECT-TYPE
        SYNTAX          InetAddress
        STATUS          current
        DESCRIPTION
            "Contains the IP Address of the GGSN providing the GCID
            upon successful handling of an Authorization Request."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
            ::= { go3gppRprtGPRSChrgInfoEntry 32 }


    go3gppRprtGPRSChrgInfoGCID OBJECT-TYPE
        SYNTAX          OCTET STRING
        STATUS          current
        DESCRIPTION
            "The GPRS Charging ID related to this Authorization Request."
        ::= { go3gppRprtGPRSChrgInfoEntry 43 }


    --
    -- Notice go3gppRprtError PRC is currently not defined because all
    -- error condition handling is satisfactorily covered by using the
    -- standard COPS-PR error handling mechanism and error objects.
    -- go3gppRprtError PRC should only be used for 3GPP GO Application
    -- error indications if necessary.
    --
```

```
   go3gppRprtUsageTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppRprtUsageEntry
       PIB-ACCESS     notify
       STATUS         current
       DESCRIPTION
           ""
       ::= { go3gppReportClasses 3 }


   go3gppRprtUsageEntry OBJECT-TYPE
       SYNTAX         go3gppRprtUsageEntry
       STATUS         current
       DESCRIPTION
           "This entry represents the PEP state changes."
       PIB-INDEX { go3gppRprtUsagePrid }
       UNIQUENESS { go3gppRprtUsageIndication }
       ::= { go3gppRprtUsageTable 1 }


   go3gppRprtUsageEntry ::= SEQUENCE {
           go3gppRprtUsagePrid        InstanceId,
           go3gppRprtUsageIndication  INTEGER }



   go3gppRprtUsagePrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gpgRprtUsage class."
           ::= { go3gppRprtUsageEntry 1 }


   go3gppRprtUsageIndication OBJECT-TYPE
       SYNTAX         INTEGER {
                        chngdTo0kbs   (1),
                        chngdFrom0kbs (2) }
       STATUS         current
       DESCRIPTION
           "Indication of GPRS Usage change.
           chngdTo0kbs indicates changing to 0kbs,
           chngdFrom0kbs indicates changing from 0kbs."
           ::= { go3gppRprtUsageEntry 2 }


   -- ------------------------------------------------------------
   --
   -- Conformance Section
   --

   go3gppCompliances         OBJECT IDENTIFIER ::= { go3gppConformance 1 }
   go3gppGroups                  OBJECT IDENTIFIER ::= { go3gppConformance 2 }


go3gppCompliance MODULE-COMPLIANCE
       STATUS  current
       DESCRIPTION
               "Describes the requirements for conformance to the
               3GPP GO PIB."


       MODULE FRAMEWORK-PIB
           MANDATORY-GROUPS {
               frwkPrcSupportGroup,
               frwkDeviceIdGroup }


       MODULE GO3GPP-PIB -- this module
           MANDATORY-GROUPS {
               go3gppAuthReqCapGroup,
               go3gppAuthReqDecCapGroup,
               go3gppAuthReqHandlerGroup,
               go3gppAuthReqEventGroup,
               go3gppBindingInfoGroup,
               go3gppFlowIdGroup,
               go3gppAuthReqFailDecGroup,
               go3gppAuthReqDecGroup,
```

```
               go3gppIcidGroup,
               go3gppAuthReqDirDecGroup,
               go3gppQosGroup,
               go3gppGateDecGroup,
               go3gppGateGroup,
--SPPI does not allow the OBJECTS clause to be empty. Since there
--are no objects to report in the Base Filter group, it is commented out.
--             go3gppBaseFilterGroup,
               go3gppIpFilterGroup,
               go3gppReportGroup,
               go3gppRprtGPRSChrgInfoGroup,
               go3gppRprtUsageGroup }
       ::= { go3gppCompliances 1 }



   go3gppAuthReqCapGroup OBJECT-GROUP
       OBJECTS {
       go3gppAuthReqCapBindingInfos,
       go3gppAuthReqCapFlowIds
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB Objects that describe the
           Authorisation Request capabilities."
       ::= { go3gppGroups 1 }

go3gppAuthReqDecCapGroup OBJECT-GROUP
       OBJECTS {
     go3gppAuthReqDecCapIcids
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Authorisation Decision capabilities."
       ::= { go3gppGroups 2 }

go3gppAuthReqHandlerGroup OBJECT-GROUP
       OBJECTS {
     go3gppAuthReqHandlerEnable,
     go3gppAuthReqHandlerBindingInfo
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Authorisation request event handler."
       ::= { go3gppGroups 3 }

go3gppAuthReqEventGroup OBJECT-GROUP
       OBJECTS {
     go3gppAuthReqEventBindingInfos
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Authorisation request events."
       ::= { go3gppGroups 4 }

go3gppBindingInfoGroup OBJECT-GROUP
       OBJECTS {
     go3gppBindingInfoToken,
     go3gppBindingInfoFlowIds,
     go3gppBindingInfoNext
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the binding information."
       ::= { go3gppGroups 5 }

go3gppFlowIdGroup OBJECT-GROUP
       OBJECTS {
     go3gppFlowIdFlowId,
     go3gppFlowIdNext
       }
       STATUS current
       DESCRIPTION
```

```
          "This Group defines the PIB
          Objects that describe the flow ID."
       ::= { go3gppGroups 6 }

go3gppAuthReqFailDecGroup OBJECT-GROUP
       OBJECTS {

     go3gppAuthReqFailDecReason
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Authorisation failure decisions."
       ::= { go3gppGroups 7 }

go3gppAuthReqDecGroup OBJECT-GROUP
       OBJECTS {
     go3gppAuthReqDecIcids,
     go3gppAuthReqDecDirDecs
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Authorisation decisions."
       ::= { go3gppGroups 8 }

go3gppIcidGroup OBJECT-GROUP
       OBJECTS {
     go3gppIcidValue,
     go3gppIcidNext
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the ICID."
       ::= { go3gppGroups 9 }

go3gppAuthReqDirDecGroup OBJECT-GROUP
       OBJECTS {
     go3gppAuthReqDirDecDirection,
     go3gppAuthReqDirDecQos,
     go3gppAuthReqDirDecGates,
     go3gppAuthReqDirDecNext
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the authorisation decision direction."
       ::= { go3gppGroups 10 }

go3gppQosGroup OBJECT-GROUP
       OBJECTS {
     go3gppQosServiceClass,
     go3gppQosDataRateUnit,
     go3gppQosDataRate
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the QoS information."
       ::= { go3gppGroups 11 }

go3gppGateDecGroup OBJECT-GROUP
       OBJECTS {
     go3gppGateDecDirection,
     go3gppGateDecGates,
     go3gppGateDecNext
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Gate decision."
       ::= { go3gppGroups 12 }

go3gppGateGroup OBJECT-GROUP
       OBJECTS {
     go3gppGateFilter,
     go3gppGateStatus,
```

```
     go3gppGateNext
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the gate."
       ::= { go3gppGroups 13 }

--SPPI does not allow the OBJECTS clause to be empty. Since there
--are no objects to report in this group, it is commented out.
--go3gppBaseFilterGroup OBJECT-GROUP
--       OBJECTS { }
--       STATUS current
--       DESCRIPTION
--          "This Group defines the PIB Objects that describe the base filter."
--       ::= { go3gppGroups 14 }

go3gppIpFilterGroup OBJECT-GROUP
       OBJECTS {
           go3gppIpFilterAddrType,
           go3gppIpFilterDstAddr,
           go3gppIpFilterDstPrefixLength,
           go3gppIpFilterSrcAddr,
           go3gppIpFilterSrcPrefixLength,
           go3gppIpFilterProtocol,
           go3gppIpFilterDstL4PortMin,
           go3gppIpFilterDstL4PortMax,
           go3gppIpFilterSrcL4PortMin,
           go3gppIpFilterSrcL4PortMax
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB Objects that describe the IP Filter."
       ::= { go3gppGroups 14 }

go3gppReportGroup OBJECT-GROUP
       OBJECTS {
          go3gppReportStatus,
          go3gppReportDetails
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the PEP reports."
       ::= { go3gppGroups 15 }

go3gppRprtGPRSChrgInfoGroup OBJECT-GROUP
       OBJECTS {
          go3gppRprtGPRSChrgInfoAddrType,
          go3gppRprtGPRSChrgInfoGGSNAddr,
          go3gppRprtGPRSChrgInfoGCID
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the charging information."
       ::= { go3gppGroups 16 }

go3gppRprtUsageGroup OBJECT-GROUP
       OBJECTS {
           go3gppRprtUsageIndication
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the report usage."
       ::= { go3gppGroups 17 }


   END
```

END

3GPP TSG-CN WG3 Meeting #25
Miami Beach, USA, 23rd – 27th September 2002.

Tdoc ⌘N3-020877

CR-Form-v7

CHANGE REQUEST

⌘ **29.207** **CR** **050** ⌘ **rev** **-** ⌘ Current version: **5.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Go PIB compiler fixes
Source:	⌘	TSG_CN WG3
Work item code:	⌘	E2EQOS
Date:	⌘	23/09/2002
Category:	⌘	**F**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	The PIB compiler detected some syntax problems.
Summary of change:	⌘	Correction of the syntax problems
Consequences if not approved:	⌘	Incorrect syntax

Clauses affected:	⌘	Annex B.

		Y	N		
Other specs Affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

First amended section

Annex B (normative): 3GPP Go PIB

```
GO3GPP-PIB  PIB-DEFINITIONS ::= BEGIN

IMPORTS
    Unsigned32, Integer32, MODULE-IDENTITY,
    MODULE-COMPLIANCE, OBJECT-TYPE, OBJECT-GROUP, pib
            FROM COPS-PR-SPPI
    InstanceId, Prid
            FROM COPS-PR-SPPI-TC
    zeroDotZero
            FROM SNMPv2-SMI

    InetAddress, InetAddressType,
    InetAddressPrefixLength, InetPortNumber
            FROM INET-ADDRESS-MIB

   DscpOrAny
         FROM DIFFSERV-DSCP-TC
    ;

go3gppPib  MODULE-IDENTITY
    SUBJECT-CATEGORIES   { go3gpp (xx) } -- Go 3GPP COPS Client Type
                                         -- xx to be assigned by IANA
    LAST-UPDATED "200208012200Z"
    ORGANIZATION "3GPP TSG CN WG3"
    CONTACT-INFO
                "Kwok Ho Chan
                 Nortel Networks
                 600 Technology Park Drive
                 Billerica, MA 01821 USA
                 Phone: +1 978 288 8175
                 Email: khchan@nortelnetworks.com

                 Louis-Nicolas Hamer
                 Nortel Networks
                 PO Box 3511 Station C
                 Ottawa, Ontario
                 Canada, K1Y 4H7
                 Phone: +1 613 768 3409
                 Email: nhamer@nortelnetworks.com"
    DESCRIPTION
            "A PIB module containing the set of provisioning
            classes that are required for support of policies for
            3GPP's GO interface, Release 5."
    REVISION "Release 5, v.1 "
    DESCRIPTION
            "This is version 1 of the 3GPP Go PIB for release 5."

    ::= { pib xxx } -- xxx to be assigned by IANA


--
-- The root OID for PRCs in the 3GPP GO PIB
--

go3gppCapabilityClasses      OBJECT IDENTIFIER ::= { go3gppPib 1 }
go3gppEventHandlerClasses    OBJECT IDENTIFIER ::= { go3gppPib 2 }
go3gppEventClasses           OBJECT IDENTIFIER ::= { go3gppPib 3 }
go3gppEventInfoClasses       OBJECT IDENTIFIER ::= { go3gppPib 4 }
go3gppReqInfoClasses         OBJECT IDENTIFIER ::= { go3gppEventInfoClasses 1 }
go3gppDecInfoClasses         OBJECT IDENTIFIER ::= { go3gppEventInfoClasses 2 }
go3gppReportClasses          OBJECT IDENTIFIER ::= { go3gppPib 5 }
go3gppConformance            OBJECT IDENTIFIER ::= { go3gppPib 6 }
```

```
   -- ---------------------------------------------------------------
   --
   -- Capability and Limitation Policy Rule Classes
   --

   --
   -- 3GPP GO Capability Table
   --

   go3gppAuthReqCapTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppAuthReqCapEntry
       PIB-ACCESS     notify
       STATUS         current
       DESCRIPTION
           "The 3GPP Go Authorization Request Capability PRC."
       ::= { go3gppCapabilityClasses 1 }


   go3gppAuthReqCapEntry OBJECT-TYPE
       SYNTAX         Go3gppAuthReqCapEntry
       STATUS         current
       DESCRIPTION
           "An instance of the go3gppAuthReqCap class identifies a
           specific PRC and associated attributes as supported
           by the device."

       PIB-INDEX { go3gppAuthReqCapPrid }
       UNIQUENESS { }
       ::= { go3gppAuthReqCapTable 1 }


   Go3gppAuthReqCapEntry ::= SEQUENCE {
           go3gppAuthReqCapPrid          InstanceId,
           go3gppAuthReqCapBindingInfos  Unsigned32,
           go3gppAuthReqCapFlowIds       Unsigned32
   }


   go3gppAuthReqCapPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppAuthReqCap class."
       ::= { go3gppAuthReqCapEntry 1 }


   go3gppAuthReqCapBindingInfos OBJECT-TYPE
       SYNTAX         Unsigned32
       STATUS         current
       DESCRIPTION
           "Indication of the maximum number of Binding Information
           the PEP can send with each Authorization Request.
           The value of zero indicates limit is not specified."
       DEFVAL  { 0 }
       ::= { go3gppAuthReqCapEntry 2 }


   go3gppAuthReqCapFlowIds OBJECT-TYPE
       SYNTAX         Unsigned32
       STATUS         current
       DESCRIPTION
           "Indication of the maximum number of Flow IDs the PEP can
           send with each Authorization Request.
           The value of zero indicates limit is not specified."
       DEFVAL  { 0 }
       ::= { go3gppAuthReqCapEntry 3 }


--
-- Go 3GPP Authorization Request Decision Capabilities
--

   go3gppAuthReqDecCapTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppAuthReqDecCapEntry
       PIB-ACCESS     notify
       STATUS         current
       DESCRIPTION
```

```
        "The 3GPP Go Authorization Request Decision Capability PRC."
    ::= { go3gppCapabilityClasses 2 }


go3gppAuthReqDecCapEntry OBJECT-TYPE
    SYNTAX         Go3gppAuthReqDecCapEntry
    STATUS         current
    DESCRIPTION
        "An instance of the go3gppAuthReqDecCap class identifies a
        specific PRC and associated attributes as supported
        by the device."

    PIB-INDEX { go3gppAuthReqDecCapPrid }
    UNIQUENESS { }
    ::= { go3gppAuthReqDecCapTable 1 }


Go3gppAuthReqDecCapEntry ::= SEQUENCE {
        go3gppAuthReqDecCapPrid           InstanceId,
        go3gppAuthReqDecCapIcids          Unsigned32
}

go3gppAuthReqDecCapPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of the go3gppAuthReqDecCap class."
    ::= { go3gppAuthReqDecCapEntry 1 }

go3gppAuthReqDecCapIcids OBJECT-TYPE
    SYNTAX         Unsigned32
    STATUS         current
    DESCRIPTION
        "Indication of the maximum number of Icid possible
        in a single Authorization Request Decision.
        The value of zero indicates limit is not specified."
    DEFVAL  { 0 }
    ::= { go3gppAuthReqDecCapEntry 2 }




--
-- Component Limitations Table
--
-- This table supports the ability to export information
-- detailing provisioning class/attribute implementation limitations
-- to the policy control function. This Component Limitiations Table
-- shall be implementation dependant and does not need to be standardized.


-- ---------------------------------------------------------------
--
-- 3GPP GO Event Handler Provisioning Classes
--
-- PRCs sent from PCF to PEP for indicating how to handle each
-- kind of event that require actions by the GO interface.
--
-- For 3GPP Release 5, PRCs for Event Handling of Authorization
-- Request containing Binding Information, Flow IDs, and QoS is
-- specified.
--

--
-- 3GPP GO Authorization Request Event Handler Provisioning Table
--

go3gppAuthReqHandlerTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppAuthReqHandlerEntry
    PIB-ACCESS     install
    STATUS         current
    DESCRIPTION
        "PRC from PCF to PEP carried by COPS DEC messages
        indicating GO actions to take at the GGSN when an Authorization
        Request Event is detected by the GGSN.  An example of an
        Authorization Request Event is the receive of a PDP Context message."
    ::= { go3gppEventHandlerClasses 1 }
```

```
go3gppAuthReqHandlerEntry OBJECT-TYPE
    SYNTAX         Go3gppAuthReqHandlerEntry
    STATUS         current
    DESCRIPTION
        "An instance of the go3gppAuthReqHandler class sent by the PCF to
        the PEP what the PEP should send upon detection of an Authorization
        Request Event."
    PIB-INDEX { go3gppAuthReqHandlerPrid }
    UNIQUENESS { go3gppAuthReqHandlerEnable,
                 go3gppAuthReqHandlerBindingInfo
               }
    ::= { go3gppAuthReqHandlerTable 1 }


Go3gppAuthReqHandlerEntry ::= SEQUENCE {
        go3gppAuthReqHandlerPrid         InstanceId,
        go3gppAuthReqHandlerEnable       INTEGER,
        go3gppAuthReqHandlerBindingInfo  Unsigned32
}


go3gppAuthReqHandlerPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of this class."
    ::= { go3gppAuthReqHandlerEntry 1 }


go3gppAuthReqHandlerEnable OBJECT-TYPE
    SYNTAX         INTEGER {
                       enable(1),
                       disable(2)
                   }
    STATUS         current
    DESCRIPTION
        "Controls the usage of 3GPP Authorization Request Events
        to trigger COPS requests to PCF on the go interface."
    DEFVAL { enable }
    ::= { go3gppAuthReqHandlerEntry 2 }


go3gppAuthReqHandlerBindingInfo OBJECT-TYPE
    SYNTAX         Unsigned32
    STATUS         current
    DESCRIPTION
        "Indication of the maximum number of Binding Information
        be associated with a each Authorizating Request.
        The value of zero indicates policy control does not impose
        any limit."
    DEFVAL  { 0 }
    ::= { go3gppAuthReqHandlerEntry 3 }



-- ------------------------------------------------------------
--
-- 3GPP GO Event Classes
--
-- PRCs from PEP to PCF carried by COPS REQ messages
-- indicating the detection of specific events in the GGSN.
-- Information required for PCF to make decision on behave
-- of GGSN is also defined here to be carried by REQ messages.
--

--
-- 3GPP GO Authorization Request Event Table
--
go3gppAuthReqEventTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppAuthReqEventEntry
    PIB-ACCESS     notify
    STATUS         current
    DESCRIPTION
        "PRC for indication of Authorization Request Event
        and its relevant information.
```

```
        Sent by PEP to PCF upon receive of an Authorization
        Request.  Using COPS REQ message."
    ::= { go3gppEventClasses 1 }


go3gppAuthReqEventEntry OBJECT-TYPE
    SYNTAX         Go3gppAuthReqEventEntry
    STATUS         current
    DESCRIPTION
        "An entry in the Authorization Request Event Table
        describe a single Event sent by the PEP to the PCF."
    PIB-INDEX { go3gppAuthReqEventPrid }
    UNIQUENESS { }
    ::= { go3gppAuthReqEventTable 1 }


Go3gppAuthReqEventEntry ::= SEQUENCE {
        go3gppAuthReqEventPrid         InstanceId,
        go3gppAuthReqEventBindingInfos Prid
}


go3gppAuthReqEventPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of the go3gppAuthReqEvent class."
    ::= { go3gppAuthReqEventEntry 1 }


go3gppAuthReqEventBindingInfos OBJECT-TYPE
    SYNTAX         Prid
    STATUS         current
    DESCRIPTION
        "References the first of a list of go3gppBindingInfo
        class instances that are associated with this
        Authorization Request Event.
        A value of zeroDotZero indicates there are no
        go3gppBindingInfo class instance associated with
        this Authorization Event."
    ::= { go3gppAuthReqEventEntry 2 }


--
-- 3GPP Go Event Request Info Classes
--

--
-- 3GPP GO Binding Information Table
--
go3gppBindingInfoTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppBindingInfoEntry
    PIB-ACCESS     notify
    STATUS         current
    DESCRIPTION
        "PRC representing Binding Information.
        Sent by PEP to PCF as part of an Authorization
        Request.  In a COPS REQ message."
    ::= { go3gppReqInfoClasses 1 }


go3gppBindingInfoEntry OBJECT-TYPE
    SYNTAX         Go3gppBindingInfoEntry
    STATUS         current
    DESCRIPTION
        "An entry in the Binding Information Table
        describing a single Binding Info.
        Each entry is referenced by go3gppAuthReqEventBindingInfos
        or go3gppBindingInfoNext."
    PIB-INDEX { go3gppBindingInfoPrid }
    UNIQUENESS { }
    ::= { go3gppBindingInfoTable 1 }


Go3gppBindingInfoEntry ::= SEQUENCE {
        go3gppBindingInfoPrid          InstanceId,
        go3gppBindingInfoToken         OCTET STRING,
```

```
        go3gppBindingInfoFlowIds       Prid,
        go3gppBindingInfoNext          Prid
}


go3gppBindingInfoPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of the go3gppBindingInfo class."
    ::= { go3gppBindingInfoEntry 1 }


go3gppBindingInfoToken OBJECT-TYPE
    SYNTAX         OCTET STRING
    STATUS         current
    DESCRIPTION
        "The Authorization Token associated with this
        instance of the go3gppBindingInfo class.
        Each Binding Information must have a Token."
    ::= { go3gppBindingInfoEntry 2 }


go3gppBindingInfoFlowIds OBJECT-TYPE
    SYNTAX         Prid
    STATUS         current
    DESCRIPTION
        "References the first of a list of FlowIds associated
        with this instance of go3gppBindingInfo class.
        This is the anchor of a list of go3gppFlowIdEntry
        Instances.
        A value of zeroDotZero indicates an empty list which
        is an error condition."
    DEFVAL  { zeroDotZero }
    ::= { go3gppBindingInfoEntry 3 }


go3gppBindingInfoNext OBJECT-TYPE
    SYNTAX         Prid
    STATUS         current
    DESCRIPTION
        "References the next of a list of go3gppBindingInfo
        instances associated with an Authorization Request.
        A value of zeroDotZero indicates this is the last of
        a list of go3gppBindingInfo instances associated with
        an Authorization Request."
    DEFVAL  { zeroDotZero }
    ::= { go3gppBindingInfoEntry 4 }


--
-- 3GPP Go Authorization Request FlowID Table
--
go3gppFlowIdTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppFlowIdEntry
    PIB-ACCESS     notify
    STATUS         current
    DESCRIPTION
        "Represents the collection of FlowIDs."
    ::= { go3gppReqInfoClasses 2 }


go3gppFlowIdEntry OBJECT-TYPE
    SYNTAX         Go3gppFlowIdEntry
    STATUS         current
    DESCRIPTION
        "Each entry describes a single FlowID."
    PIB-INDEX { go3gppFlowIdPrid }
    UNIQUENESS { }
    ::= { go3gppFlowIdTable 1 }


Go3gppFlowIdEntry ::= SEQUENCE {
        go3gppFlowIdPrid         InstanceId,
        go3gppFlowIdFlowId       Unsigned32,
        go3gppFlowIdNext         Prid
}
```

```
   go3gppFlowIdPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppFlowId class."
       ::= { go3gppFlowIdEntry 1 }


   go3gppFlowIdFlowId OBJECT-TYPE
       SYNTAX         Unsigned32
       STATUS         current
       DESCRIPTION
           "The FlowId itself."
       ::= { go3gppFlowIdEntry 2 }


   go3gppFlowIdNext OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "References the next FlowId in the list associated with the
           same Binding Information of an Authorization Request.
           This points to a list of go3gppFlowIdEntry Instances.
           A value of zeroDotZero indicates end of the list."
       DEFVAL  { zeroDotZero }
       ::= { go3gppFlowIdEntry 3 }



   -- ------------------------------------------------------------
   --
   -- 3GPP Go Authorization Request Decisions
   --
   -- PRCs for carrying the Event Decision send from PCF to PEP,
   -- carried by the COPS DEC message.
   -- These PRCs include support for Gates/Filters, QoS, ICIDs.
   --


   -- We can define Failure Decisions by use of COPS-PR DEC message
   -- containing first an install decision (with objects indicating
   -- what failed and some indication to the GGSN how to react to this
   -- Error Decision), and second a remove decision (for cleanup of
   -- the installed Error Decision Object).
   --

-- Failures indicated by PCF to GGSN
--   Authorization Failure
--
   --
   -- Authorization Request Failure Decision Table
   --
   go3gppAuthReqFailDecTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppAuthReqFailDecEntry
       PIB-ACCESS     install
       STATUS         current
       DESCRIPTION
           "The Authorization failure Table. Indicates failures decisions to the PEP."
       ::= { go3gppDecInfoClasses 1 }


   go3gppAuthReqFailDecEntry OBJECT-TYPE
       SYNTAX         Go3gppAuthReqFailDecEntry
       STATUS         current
       DESCRIPTION
           "Each go3gppAuthReqFailDecEntry is per request."
       PIB-INDEX { go3gppAuthReqFailDecPrid }
       UNIQUENESS { }
       ::= { go3gppAuthReqFailDecTable 1 }


   Go3gppAuthReqFailDecEntry ::= SEQUENCE {
           go3gppAuthReqFailDecPrid        InstanceId,

           go3gppAuthReqFailDecReason      INTEGER
```

```
   }

   go3gppAuthReqFailDecPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppAuthReqFailDec class."
       ::= { go3gppAuthReqFailDecEntry 1 }



   go3gppAuthReqFailDecReason OBJECT-TYPE
       SYNTAX         INTEGER {
                                        noCorrespondingImsSession (1),
                                        invalidBundling (2)
                               }
       STATUS         current
       DESCRIPTION
           "Reason for Auth Request Failure Decision given by PCF:

            noCorrespondingImsSession:    No corresponding IMS Session was found
                                          by the PCF

            invalidBundling:             In case the UE violates the IMS level indication, and
attempts to set up multiple IMS media components in a single PDP context despite of an indication
that mandated separate PDP contexts."
       ::= { go3gppAuthReqFailDecEntry 2 }



   --
   -- Authorization Request Decision Table
   --
   go3gppAuthReqDecTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppAuthReqDecEntry
       PIB-ACCESS     install
       STATUS         current
       DESCRIPTION
           "The Authorization Request Decision Table. "
       ::= { go3gppDecInfoClasses 2 }


   go3gppAuthReqDecEntry OBJECT-TYPE
       SYNTAX         Go3gppAuthReqDecEntry
       STATUS         current
       DESCRIPTION
           "Each go3gppAuthReqDecEntry is per Authorization Request."
       PIB-INDEX { go3gppAuthReqDecPrid }
       UNIQUENESS { }
       ::= { go3gppAuthReqDecTable 1 }


   Go3gppAuthReqDecEntry ::= SEQUENCE {
           go3gppAuthReqDecPrid       InstanceId,
           go3gppAuthReqDecIcids      Prid,
           go3gppAuthReqDecDirDecs    Prid
   }


   go3gppAuthReqDecPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppAuthReqDec class."
       ::= { go3gppAuthReqDecEntry 1 }


   go3gppAuthReqDecIcids OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "References the first of a list of IcIDs associated
           with this instance of go3gppAuthReqDec class.
           There should be one IcID on this list for each Binding
           Information in the corresponding Authorization Request.
           A value of zeroDotZero indicates an empty list and there
```

```
            is no IcID change associated with this Authorization Request
            Decision."
        DEFVAL  { zeroDotZero }
        ::= { go3gppAuthReqDecEntry 2 }


    go3gppAuthReqDecDirDecs OBJECT-TYPE
        SYNTAX          Prid
        STATUS          current
        DESCRIPTION
            "References the first of a list of Directional Decisions
            associated with this instance of go3gppAuthReqDec class.
            There should be at least one and at most two Directional
            Decisions per Authorization Request Decision.
            Hence a value of zeroDotZero is illegal."
        ::= { go3gppAuthReqDecEntry 3 }


--
-- 3GPP Go ICID Table
--
    go3gppIcidTable OBJECT-TYPE
        SYNTAX          SEQUENCE OF Go3gppIcidEntry
        PIB-ACCESS      install
        STATUS          current
        DESCRIPTION
            "Represents the collection of ICID entries"
        ::= { go3gppDecInfoClasses 3 }


    go3gppIcidEntry OBJECT-TYPE
        SYNTAX          Go3gppIcidEntry
        STATUS          current
        DESCRIPTION
            "Represents the ICID Entry"
        PIB-INDEX { go3gppIcidPrid }
        UNIQUENESS { go3gppIcidValue }
        ::= { go3gppIcidTable 1 }


    Go3gppIcidEntry ::= SEQUENCE {
            go3gppIcidPrid            InstanceId,
            go3gppIcidValue           OCTET STRING,
            go3gppIcidNext            Prid
    }


    go3gppIcidPrid OBJECT-TYPE
        SYNTAX          InstanceId
        STATUS          current
        DESCRIPTION
            "An arbitrary integer index that uniquely identifies an
            instance of the go3gppIcid class."
        ::= { go3gppIcidEntry 1 }


    go3gppIcidValue OBJECT-TYPE
        SYNTAX          OCTET STRING
        STATUS          current
        DESCRIPTION
            "The ICID itself. The syntax of this OBJECT-TYPE needs to be confirmed. "
        ::= { go3gppIcidEntry 2 }


    go3gppIcidNext OBJECT-TYPE
        SYNTAX          Prid
        STATUS          current
        DESCRIPTION
            "References the next go3gppIcidEntry of a list of IcIDs
            associated with this instance of go3gppAuthReqDec class.
            There should be one IcID on this list for each Binding
            Information in the corresponding Authorization Request.
            A value of zeroDotZero indicates the end of the list of
            IcIDs associated with an Authorization Request Decision."
        DEFVAL  { zeroDotZero }
        ::= { go3gppIcidEntry 3 }
```

```
--
-- 3GPP Go Authorization Request Directional Decision Table
--
   go3gppAuthReqDirDecTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppAuthReqDirDecEntry
       PIB-ACCESS     install
       STATUS         current
       DESCRIPTION
           "This table represents the authorization request decision for a  unique direction (e.g.
uplink and downlink)."
       ::= { go3gppDecInfoClasses 4 }


   go3gppAuthReqDirDecEntry OBJECT-TYPE
       SYNTAX         Go3gppAuthReqDirDecEntry
       STATUS         current
       DESCRIPTION
           "There should be one of these per direction per AuthReqDec."
       PIB-INDEX { go3gppAuthReqDirDecPrid }
       UNIQUENESS { }
       ::= { go3gppAuthReqDirDecTable 1 }


   Go3gppAuthReqDirDecEntry ::= SEQUENCE {
           go3gppAuthReqDirDecPrid      InstanceId,
           go3gppAuthReqDirDecDirection INTEGER,
           go3gppAuthReqDirDecQos       Prid,
           go3gppAuthReqDirDecGates     Prid,
           go3gppAuthReqDirDecNext      Prid
   }


   go3gppAuthReqDirDecPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppAuthReqDirDec class."
       ::= { go3gppAuthReqDirDecEntry 1 }


   go3gppAuthReqDirDecDirection OBJECT-TYPE
       SYNTAX         INTEGER {
                           uplink   (1),
                           downlink (2)
                      }
       STATUS         current
       DESCRIPTION
           "Indicates the direction this decision applies to."
       ::= { go3gppAuthReqDirDecEntry 2 }


   go3gppAuthReqDirDecQos OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           " The Authorized QoS. References the go3gppQos class."
       ::= { go3gppAuthReqDirDecEntry 3 }


   go3gppAuthReqDirDecGates OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "References the first instance of a list of the go3gppGate class."
       ::= { go3gppAuthReqDirDecEntry 4 }


   go3gppAuthReqDirDecNext OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "References the next instance of a list of
           go3gppAuthReqDirDec class."
       ::= { go3gppAuthReqDirDecEntry 5 }


--
```

```
-- 3GPP Go QoS Table
--
   go3gppQosTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppQosEntry
       PIB-ACCESS     install
       STATUS         current
       DESCRIPTION
           "This table represents the Authorised QoS. It is referenced by the go3gppAuthReqDirDecQos
entry of the go3gppAuthReqDirDecEntry  class."
       ::= { go3gppDecInfoClasses 5 }


   go3gppQosEntry OBJECT-TYPE
       SYNTAX         Go3gppQosEntry
       STATUS         current
       DESCRIPTION
           "There should be one of these per direction per AuthReqDec."
       PIB-INDEX { go3gppQosPrid }
       UNIQUENESS { }
       ::= { go3gppQosTable 1 }



   Go3gppQosEntry ::= SEQUENCE {
           go3gppQosPrid               InstanceId,
           go3gppQosServiceClass       DscpOrAny,
           go3gppQosDataRateUnit       INTEGER,
           go3gppQosDataRate           Unsigned32
   }


   go3gppQosPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppQos class."
       ::= { go3gppQosEntry 1 }



   go3gppQosServiceClass OBJECT-TYPE
       SYNTAX         DscpOrAny
       STATUS         current
       DESCRIPTION
           "A Service Class Indication using DSCP Encoding."
       ::= { go3gppQosEntry 2 }


   go3gppQosDataRateUnit OBJECT-TYPE
       SYNTAX         INTEGER {
                        bps     (1),
                        kbps    (2),
                        Mmbps    (3)
                      }
       STATUS         current
       DESCRIPTION
           "Indication of the unit of measure for go3gppQosDataRate,
           in bits per second, kilo bits per second, or mega bits per
           second."
       ::= { go3gppQosEntry 3 }


   go3gppQosDataRate OBJECT-TYPE
       SYNTAX         Unsigned32
       STATUS         current
       DESCRIPTION
           "The Data Rate with unit of measure indicated by
           go3gppQosDataRateUnit."
       ::= { go3gppQosEntry 4 }



--
-- 3GPP Go Gate Decision Table
--
--
-- There could be one of these per direction per GateDec.
```

```
--
-- This is for changing Gating Status only when used alone
-- (not as part of Direction Decision).

-- go3gppGateDec is sent in a different COPS DEC message
-- from the DEC message carrying go3gppAuthReqDec.  PCF must
-- have sent a go3gppAuthReqDec before using go3gppGateDec.

   go3gppGateDecTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppGateDecEntry
       PIB-ACCESS     install
       STATUS         current
       DESCRIPTION
           "This table represents an updated gating decision."
       ::= { go3gppDecInfoClasses 6 }


   go3gppGateDecEntry OBJECT-TYPE
       SYNTAX         Go3gppGateDecEntry
       STATUS         current
       DESCRIPTION
           "There should be one of these per direction per AuthReqDec."
       PIB-INDEX { go3gppGateDecPrid }
       UNIQUENESS { }
       ::= { go3gppGateDecTable 1 }



   Go3gppGateDecEntry ::= SEQUENCE {
           go3gppGateDecPrid           InstanceId,
           go3gppGateDecDirection      INTEGER,
           go3gppGateDecGates          Prid,
           go3gppGateDecNext           Prid
   }


   go3gppGateDecPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppGateDec class."
       ::= { go3gppGateDecEntry 1 }



   go3gppGateDecDirection OBJECT-TYPE
       SYNTAX         INTEGER {
                           uplink   (1),
                           downlink (2)
                      }
       STATUS         current
       DESCRIPTION
           "References the gate direction."
       ::= { go3gppGateDecEntry 2 }

    go3gppGateDecGates OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "References the first instance of a list of go3gppGate class."
       ::= { go3gppGateDecEntry 3 }


   go3gppGateDecNext OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "References the next instance of a list of go3gppGateDec class."
       ::= { go3gppGateDecEntry 4 }




--
-- 3GPP Go Gate Table
--
   go3gppGateTable OBJECT-TYPE
```

```
    SYNTAX         SEQUENCE OF Go3gppGateEntry
    PIB-ACCESS     install
    STATUS         current
    DESCRIPTION
        "PRC representing a Gate."
    ::= { go3gppDecInfoClasses 7 }


go3gppGateEntry OBJECT-TYPE
    SYNTAX         Go3gppGateEntry
    STATUS         current
    DESCRIPTION
        "Each instance represents one Gate."
    PIB-INDEX { go3gppGatePrid }
    UNIQUENESS { }
    ::= { go3gppGateTable 1 }


Go3gppGateEntry ::= SEQUENCE {
        go3gppGatePrid              InstanceId,
        go3gppGateFilter            Prid,
        go3gppGateStatus            INTEGER,
        go3gppGateNext              Prid
}


go3gppGatePrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of the go3gppGate class."
    ::= { go3gppGateEntry 1 }



go3gppGateFilter OBJECT-TYPE
    SYNTAX         Prid
    STATUS         current
    DESCRIPTION
        "References an instance of the go3gppIpFilter class.
        A value of zeroDotZero indicates no go3gppIpFilter is
        used with this go3gppGate."
    ::= { go3gppGateEntry 2 }


go3gppGateStatus OBJECT-TYPE

    SYNTAX         INTEGER {
                        close  (1),
                        open   (2)
                   }
    STATUS         current
    DESCRIPTION
        "Indicates if this gate will allow traffic to flow."
 DEFVAL  { close }
    ::= { go3gppGateEntry 3 }



go3gppGateNext OBJECT-TYPE
    SYNTAX         Prid
    STATUS         current
    DESCRIPTION
        "Reference the next Gate on a list of go3gppGate instances.
        A value of zeroDotZero indicates this is the last Gate
        on the list."
    ::= { go3gppGateEntry 4 }




--
-- The Base Filter Table
--

go3gppBaseFilterTable OBJECT-TYPE
```

```
    SYNTAX          SEQUENCE OF Go3gppBaseFilterEntry
    PIB-ACCESS      install
    STATUS          current
    DESCRIPTION

        "The Base Filter class.  A packet has to match all
        fields in an Filter.  Wildcards may be specified for those
        fields that are not relevant."

    ::= { go3gppDecInfoClasses 8 }


Ggo3gppBaseFilterEntry OBJECT-TYPE
    SYNTAX          gGo3gppBaseFilterEntry
    STATUS          current
    DESCRIPTION
        "An instance of the go3gppBaseFilter class."

    PIB-INDEX { go3gppBaseFilterPrid }
    UNIQUENESS { }       ::= { go3gppBaseFilterTable 1 }

gGo3gppBaseFilterEntry ::= SEQUENCE {
        go3gppBaseFilterPrid         InstanceId
}


go3gppBaseFilterPrid OBJECT-TYPE
    SYNTAX          InstanceId
    STATUS          current
    DESCRIPTION
        "An integer index to uniquely identify this Filter among all
        the Filters."

    ::= { go3gppBaseFilterEntry 1 }


--
-- The Go 3GPP IP Filter Table
--

go3gppIpFilterTable OBJECT-TYPE
    SYNTAX          SEQUENCE OF Go3gppIpFilterEntry
    PIB-ACCESS      install
    STATUS          current
    DESCRIPTION
        "Filter definitions.  A packet has to match all fields in a
        filter.  Wildcards may be specified for those fields that
        are not relevant."

    ::= { go3gppDecInfoClasses 9 }

go3gppIpFilterEntry OBJECT-TYPE
    SYNTAX          Go3gppIpFilterEntry
    STATUS          current
    DESCRIPTION
        "An instance of the go3gppIpFilter class."

    EXTENDS { go3gppBaseFilterEntry }
    UNIQUENESS {
                go3gppIpFilterAddrType,
                go3gppIpFilterDstAddr,
                go3gppIpFilterDstPrefixLength,
                go3gppIpFilterSrcAddr,
                go3gppIpFilterSrcPrefixLength,
                go3gppIpFilterProtocol,
                go3gppIpFilterDstL4PortMin,
                go3gppIpFilterDstL4PortMax,
                go3gppIpFilterSrcL4PortMin,
                go3gppIpFilterSrcL4PortMax }

    ::= { go3gppIpFilterTable 1 }



Go3gppIpFilterEntry ::= SEQUENCE {
        go3gppIpFilterAddrType          InetAddressType,
        go3gppIpFilterDstAddr           InetAddress,
        go3gppIpFilterDstPrefixLength   InetAddressPrefixLength,
```

```
        go3gppIpFilterSrcAddr          InetAddress,
        go3gppIpFilterSrcPrefixLength  InetAddressPrefixLength,
        go3gppIpFilterProtocol         Integer32,
        go3gppIpFilterDstL4PortMin     InetPortNumber,
        go3gppIpFilterDstL4PortMax     InetPortNumber,
        go3gppIpFilterSrcL4PortMin     InetPortNumber,
        go3gppIpFilterSrcL4PortMax     InetPortNumber
}



go3gppIpFilterAddrType OBJECT-TYPE

    SYNTAX         InetAddressType
    STATUS         current
    DESCRIPTION
        "The address type enumeration value [INETADDR] to specify
         the type of the packet's IP address."
    ::= { go3gppIpFilterEntry 1 }

go3gppIpFilterDstAddr OBJECT-TYPE

    SYNTAX         InetAddress
    STATUS         current
    DESCRIPTION
        "The IP address [INETADDR] to match against the packet's
         destination IP address. go3gppIpFilterDstPrefixLength
         indicates the number of bits that are relevant. "

    ::= { go3gppIpFilterEntry 2 }


go3gppIpFilterDstPrefixLength OBJECT-TYPE
    SYNTAX         InetAddressPrefixLength
    STATUS         current
    DESCRIPTION
        "The length of a mask for the matching of the destination
         IP address.  Masks are constructed by setting bits in
         sequence from the most-significant bit downwards for
         go3gppIpFilterDstPrefixLength bits length. All other bits in
         the mask, up to the  number needed to fill the length of
         the address go3gppIpFilterDstAddr are cleared to zero. A zero
         bit in the mask then means that the corresponding bit in
         the address always matches."

    ::= { go3gppIpFilterEntry 3 }



go3gppIpFilterSrcAddr OBJECT-TYPE
    SYNTAX         InetAddress
    STATUS         current
    DESCRIPTION
        "The IP address to match against the packet's source IP
        address. go3gppIpFilterSrcPrefixLength indicates the
       number of bits that are relevant. "

    ::= { go3gppIpFilterEntry 4 }

go3gppIpFilterSrcPrefixLength OBJECT-TYPE
    SYNTAX         InetAddressPrefixLength
    UNITS          "bits"
    STATUS         current


    DESCRIPTION
        "The length of a mask for the matching of the source IP
         address. Masks are constructed by setting bits in sequence
         from the most-significant bit downwards for
         go3gppIpFilterSrcPrefixLength bits length. All other bits in
         the mask, up to the  number needed to fill the length of
         the address go3gppIpFilterSrcAddr are cleared to zero.  A
         zero bit in the mask then means that the corresponding bit
         in the address always matches."

    ::= { go3gppIpFilterEntry 5 }
```

```
go3gppIpFilterProtocol OBJECT-TYPE
    SYNTAX         Integer32 (-1 | 0..255)
    STATUS         current
    DESCRIPTION
        "The IP protocol to match against the packet's protocol.
        A value of -1 means match all."

    ::= { go3gppIpFilterEntry 6 }

go3gppIpFilterDstL4PortMin OBJECT-TYPE
    SYNTAX         InetPortNumber
    STATUS         current
    DESCRIPTION
        "The minimum value that the packet's layer 4 destination
        port number can have and match this filter. This value must
        be equal to or lesser that the value specified for this
        filter in go3gppIpFilterDstL4PortMax."

    ::= { go3gppIpFilterEntry 7 }


go3gppIpFilterDstL4PortMax OBJECT-TYPE
    SYNTAX         InetPortNumber


    STATUS         current
    DESCRIPTION
        "The maximum value that the packet's layer 4 destination
        port number can have and match this filter. This value must
        be equal to or greater that the value specified for this
        filter in go3gppIpFilterDstL4PortMin."

    ::= { go3gppIpFilterEntry 8 }


go3gppIpFilterSrcL4PortMin OBJECT-TYPE
    SYNTAX         InetPortNumber
    STATUS         current
    DESCRIPTION
        "The minimum value that the packet's layer 4 source port
        number can have and match this filter. This value must
        be equal to or lesser that the value specified for this
        filter in go3gppIpFilterSrcL4PortMax."

    ::= { go3gppIpFilterEntry 9 }


go3gppIpFilterSrcL4PortMax OBJECT-TYPE
    SYNTAX         InetPortNumber
    STATUS         current
    DESCRIPTION
        "The maximum value that the packet's layer 4 source port
        number can have and match this filter.  This value must be
        equal to or greater that the value specified for this filter
        in go3gppIpFilterSrcL4PortMin."

    ::= { go3gppIpFilterEntry 10 }









-- ------------------------------------------------------------
--
-- 3GPP Go Reports
--
-- PRCs for carrying the Decision enforcement result sent from PEP to PCF,
-- carried using the COPS REPORT message.
-- These PRCs include support for the success or failure of the PEP in
-- carrying out the PCF's decision or -change of the state in the GGSN.
--

go3gppReportTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppReportEntry
    PIB-ACCESS     notify
```

```
        STATUS         current
        DESCRIPTION
            "This table represents the success or failure of the decision enforcement and
            state changes in the PEP."
        ::= { go3gppReportClasses 1 }


    go3gppReportEntry OBJECT-TYPE
        SYNTAX         gGo3gppReportEntry
        STATUS         current
        DESCRIPTION
            ""
        PIB-INDEX { go3gppReportPrid }
        UNIQUENESS { }
        ::= { go3gppReportTable 1 }


    gGo3gppReportEntry ::= SEQUENCE {
            go3gppReportPrid       InstanceId,
            go3gppReportStatus     INTEGER,
            go3gppReportDetails    Prid }


    go3gppReportPrid OBJECT-TYPE
        SYNTAX         InstanceId
        STATUS         current
        DESCRIPTION
            "An arbitrary integer index that uniquely identifies an
            instance of the go3gpgReport class."
            ::= { go3gppReportEntry 1 }


    go3gppReportStatus OBJECT-TYPE
        SYNTAX         INTEGER {
                                 success (1),
                                 failure (2),
                                 usage   (3) }
        STATUS         current
        DESCRIPTION
            "When Status is:
               success: Indicates the successful implementation of the
                        decision.
                        go3gppReportDetails:
                          Reference an instance of go3gppRprtGPRSChrgInfo
                          for initial authorization request decision;
                          References nothing otherwise (contains the value
                          zeroDotZero).

               Failure: Indicates the failure of implementing the decision.

                        go3gppReportDetails may references an Error object,
or may have the value zeroDotZero when no error
                        object is needed, in which case COPS and COPS-PR
                        error codes and error objects are sufficient.
               Usage:   go3gppReportDetails references an instance of
                        go3gppRprtUsage class."

        ::= { go3gppReportEntry 2 }


    go3gppReportDetails OBJECT-TYPE
        SYNTAX         Prid
        STATUS         current
        DESCRIPTION
            "May reference an instance of go3gppRprtGPRSChrgInfo,
            go3gppRprtError(not defined), or go3gppRprtUsage class,
            or may have the value of zeroDotZero depending on the value of
            go3gppReportStatus."
        ::= { go3gppReportEntry 3 }


    go3gppRprtGPRSChrgInfoTable OBJECT-TYPE
        SYNTAX         SEQUENCE OF Go3gppRprtGPRSChrgInfoEntry
        PIB-ACCESS     notify
        STATUS         current
        DESCRIPTION
            "This table represents the GPRS Charging information"
        ::= { go3gppReportClasses 2 }
```

```
go3gppRprtGPRSChrgInfoEntry OBJECT-TYPE
    SYNTAX         go3gppRprtGPRSChrgInfoEntry
    STATUS         current
    DESCRIPTION
        "This entry represents the GPRS Charging Identifier and GGSN address."
    PIB-INDEX { go3gppRprtGPRSChrgInfoPrid }
    UNIQUENESS { go3gppRprtGPRSChrgInfoGGSNAddr,
                 go3gppRprtGPRSChrgInfoGCID }
    ::= { go3gppRprtGPRSChrgInfoTable 1 }


go3gppRprtGPRSChrgInfoEntry ::= SEQUENCE {
        go3gppRprtGPRSChrgInfoPrid       InstanceId,

        go3gppRprtGPRSChrgInfoGGSNAddr   InetAddress,
        go3gppRprtGPRSChrgInfoGCID       OCTET STRING }


go3gppRprtGPRSChrgInfoPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of the go3gpgRprtGPRSChrgInfo class."
        ::= { go3gppRprtGPRSChrgInfoEntry 1 }


go3gppRprtGPRSChrgInfoGGSNAddr OBJECT-TYPE
    SYNTAX         InetAddress
    STATUS         current
    DESCRIPTION
        "Contains the IP Address of the GGSN providing the GCID
        upon successful handling of an Authorization Request."
        ::= { go3gppRprtGPRSChrgInfoEntry 2 }


go3gppRprtGPRSChrgInfoGCID OBJECT-TYPE
    SYNTAX         OCTET STRING
    STATUS         current
    DESCRIPTION
        "The GPRS Charging ID related to this Authorization Request."
    ::= { go3gppRprtGPRSChrgInfoEntry 3 }


--
-- Notice go3gppRprtError PRC is currently not defined because all
-- error condition handling is satisfactorily covered by using the
-- standard COPS-PR error handling mechanism and error objects.
-- go3gppRprtError PRC should only be used for 3GPP GO Application
-- error indications if necessary.
--

go3gppRprtUsageTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppRprtUsageEntry
    PIB-ACCESS     notify
    STATUS         current
    DESCRIPTION
        ""
    ::= { go3gppReportClasses 3 }


go3gppRprtUsageEntry OBJECT-TYPE
    SYNTAX         gGo3gppRprtUsageEntry
    STATUS         current
    DESCRIPTION
        "This entry represents the PEP state changes."
    PIB-INDEX { go3gppRprtUsagePrid }
    UNIQUENESS { go3gppRprtUsageIndication }
    ::= { go3gppRprtUsageTable 1 }


gGo3gppRprtUsageEntry ::= SEQUENCE {
        go3gppRprtUsagePrid        InstanceId,
        go3gppRprtUsageIndication  INTEGER }
```

```
   go3gppRprtUsagePrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gpgRprtUsage class."
           ::= { go3gppRprtUsageEntry 1 }


   go3gppRprtUsageIndication OBJECT-TYPE
       SYNTAX         INTEGER {
                        chngdTo0kbs   (1),
                        chngdFrom0kbs (2) }
       STATUS         current
       DESCRIPTION
           "Indication of GPRS Usage change.
           chngdTo0kbs indicates changing to 0kbs,
           chngdFrom0kbs indicates changing from 0kbs."
           ::= { go3gppRprtUsageEntry 2 }


   -- ------------------------------------------------------------
   --
   -- Conformance Section
   --

   go3gppCompliances         OBJECT IDENTIFIER ::= { go3gppConformance 1 }
   go3gppGroups                  OBJECT IDENTIFIER ::= { go3gppConformance 2 }


go3gppCompliance MODULE-COMPLIANCE
       STATUS  current
       DESCRIPTION
               "Describes the requirements for conformance to the
               3GPP GO PIB."


       MODULE FRAMEWORK-PIB
           MANDATORY-GROUPS {
               frwkPrcSupportGroup,
               frwkDeviceIdGroup }


       MODULE GO3GPP-PIB -- this module
           MANDATORY-GROUPS {
               go3gppAuthReqCapGroup,
               go3gppAuthReqDecCapGroup,
               go3gppAuthReqHandlerGroup,
               go3gppAuthReqEventGroup,
               go3gppBindingInfoGroup,
               go3gppFlowIdGroup,
               go3gppAuthReqFailDecGroup,
               go3gppAuthReqDecGroup,
               go3gppIcidGroup,
               go3gppAuthReqDirDecGroup,
               go3gppQosGroup,
               go3gppGateDecGroup,
               go3gppGateGroup,
--SPPI does not allow the OBJECTS clause to be empty. Since there
--are no objects to report in the Base Filter group, it is commented out.
--             go3gppBaseFilterGroup,
               go3gppIpFilterGroup,
               go3gppReportGroup,
               go3gppRprtGPRSChrgInfoGroup,
               go3gppRprtUsageGroup }
       ::= { go3gppCompliances 1 }



   go3gppAuthReqCapGroup OBJECT-GROUP
       OBJECTS {
       go3gppAuthReqCapBindingInfos,
       go3gppAuthReqCapFlowIds
       }
       STATUS current
       DESCRIPTION
```

```
          "This Group defines the PIB Objects that describe the
           Authorisation Request capabilities."
       ::= { go3gppGroups 1 }

go3gppAuthReqDecCapGroup OBJECT-GROUP
       OBJECTS {
     go3gppAuthReqDecCapIcids
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Authorisation Decision capabilities."
       ::= { go3gppGroups 2 }

go3gppAuthReqHandlerGroup OBJECT-GROUP
       OBJECTS {
     go3gppAuthReqHandlerEnable,
     go3gppAuthReqHandlerBindingInfo
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Authorisation request event handler."
       ::= { go3gppGroups 3 }

go3gppAuthReqEventGroup OBJECT-GROUP
       OBJECTS {
     go3gppAuthReqEventBindingInfos
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Authorisation request events."
       ::= { go3gppGroups 4 }

go3gppBindingInfoGroup OBJECT-GROUP
       OBJECTS {
     go3gppBindingInfoToken,
     go3gppBindingInfoFlowIds,
     go3gppBindingInfoNext
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the binding information."
       ::= { go3gppGroups 5 }

go3gppFlowIdGroup OBJECT-GROUP
       OBJECTS {
     go3gppFlowIdFlowId,
     go3gppFlowIdNext
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the flow ID."
       ::= { go3gppGroups 6 }

go3gppAuthReqFailDecGroup OBJECT-GROUP
       OBJECTS {

     go3gppAuthReqFailDecReason
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Authorisation failure decisions."
       ::= { go3gppGroups 7 }

go3gppAuthReqDecGroup OBJECT-GROUP
       OBJECTS {
     go3gppAuthReqDecIcids,
     go3gppAuthReqDecDirDecs
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Authorisation decisions."
```

```
       ::= { go3gppGroups 8 }

go3gppIcidGroup OBJECT-GROUP
       OBJECTS {
     go3gppIcidValue,
     go3gppIcidNext
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the ICID."
       ::= { go3gppGroups 9 }

go3gppAuthReqDirDecGroup OBJECT-GROUP
       OBJECTS {
     go3gppAuthReqDirDecDirection,
     go3gppAuthReqDirDecQos,
     go3gppAuthReqDirDecGates,
     go3gppAuthReqDirDecNext
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the authorisation decision direction."
       ::= { go3gppGroups 10 }

go3gppQosGroup OBJECT-GROUP
       OBJECTS {
     go3gppQosServiceClass,
     go3gppQosDataRateUnit,
     go3gppQosDataRate
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the QoS information."
       ::= { go3gppGroups 11 }

go3gppGateDecGroup OBJECT-GROUP
       OBJECTS {
     go3gppGateDecDirection,
     go3gppGateDecGates,
     go3gppGateDecNext
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Gate decision."
       ::= { go3gppGroups 12 }

go3gppGateGroup OBJECT-GROUP
       OBJECTS {
     go3gppGateFilter,
     go3gppGateStatus,
     go3gppGateNext
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the gate."
       ::= { go3gppGroups 13 }

--SPPI does not allow the OBJECTS clause to be empty. Since there
--are no objects to report in this group, it is commented out.
--go3gppBaseFilterGroup OBJECT-GROUP
--       OBJECTS { }
--       STATUS current
--       DESCRIPTION
--          "This Group defines the PIB Objects that describe the base filter."
--       ::= { go3gppGroups 14 }

go3gppIpFilterGroup OBJECT-GROUP
       OBJECTS {
           go3gppIpFilterAddrType,
           go3gppIpFilterDstAddr,
           go3gppIpFilterDstPrefixLength,
           go3gppIpFilterSrcAddr,
           go3gppIpFilterSrcPrefixLength,
```

```
            go3gppIpFilterProtocol,
            go3gppIpFilterDstL4PortMin,
            go3gppIpFilterDstL4PortMax,
            go3gppIpFilterSrcL4PortMin,
            go3gppIpFilterSrcL4PortMax
         }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB Objects that describe the IP Filter."
       ::= { go3gppGroups 14 }

go3gppReportGroup OBJECT-GROUP
       OBJECTS {
     go3gppReportStatus,
     go3gppReportDetails
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the PEP reports."
       ::= { go3gppGroups 15 }

go3gppRprtGPRSChrgInfoGroup OBJECT-GROUP
       OBJECTS {
     go3gppRprtGPRSChrgInfoGGSNAddr,
     go3gppRprtGPRSChrgInfoGCID
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the charging information."
       ::= { go3gppGroups 16 }

go3gppRprtUsageGroup OBJECT-GROUP
       OBJECTS {
           go3gppRprtUsageIndication
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the report usage."
       ::= { go3gppGroups 17 }


   END
```

END

3GPP TSG-CN WG3 Meeting #26
Bangkok, Thailand, 11th – 15th November 2002.

Tdoc ⌘N3-020985

CR-Form-v7

CHANGE REQUEST

⌘ **29.207** **CR** **053** ⌘ **rev** **1** ⌘ Current version: **5.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Re-Using filters from the IETF Framework PIB
Source:	⌘	TSG_CN WG3
Work item code:	⌘	E2EQoS
Date:	⌘	11/11/2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	The IETF OPS Area Director has expressed his concern about CN3 not re-using the IP filters from the Framework PIB
Summary of change:	⌘	The Go PIB specific filters: go3gppIpFilterTable and go3gppBaseFilterTable are removed from the Go PIB, and the framework PIB frwkIpFilterTable and frwkBaseFilterTable are used instead.
Consequences if not approved:	⌘	Go PIB will use a modified version of IETF IP Filter, creating a divergence from using Standard data representation. Relations with the IETF community might deteriorate.
Clauses affected:	⌘	6.3.2, Annex B

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	
		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm.
Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

********** **FIRST AMENDED SECTION** **********

4 Go interface

4.1 Overview

The Go interface allows service-based local policy information to be "pushed" to or requested by the Policy Enforcement Point (PEP) in the GGSN from a Policy Control Function (PCF). As defined in the stage 2 specifications [3], this information is used by the GGSN for:

- GPRS bearer authorisation;
- Charging correlation;
- Policy based "gating" function in GGSN;

The Go interface uses IP flow based policies.
The Common Open Policy Service (COPS) protocol has been developed as a protocol for use between a policy server and a network device, as described in [7].
In addition, COPS for Provisioning extensions have been developed as described in [8] with [9] describing a structure for specifying policy information that can then be transmitted to a network device for the purpose of configuring policy at that device. The model underlying this structure is one of well-defined provisioning classes and instances of these classes residing in a virtual information store called the Policy Information Base (PIB).
The Go interface shall conform to the IETF COPS [7] and the extensions of COPS-PR [8]. For the purpose of exchanging the required specific Go information, a 3GPP Go COPS-PR Policy Information Base (PIB) is defined in the present document.
COPS Usage for Policy Provisioning (COPS-PR) is independent of the type of policy being provisioned (QoS, Security, etc.). In the present document, COPS-PR is used to communicate service-based local policy information between PCF and GGSN. COPS-PR can be extended to provide per-flow policy control along with a 3GPP Go Policy Information Base (PIB). The 3GPP Go PIB may inherit part of the data object definitions from other PIBs and MIBs defined in the IETF.
The minimum functionalities that the Go interface shall cover are introduced below.

1. Media Authorisation request from GGSN:

   The GGSN receives the binding information during the activation of a (Secondary) PDP context or during the modification of an existing PDP context that has been previously authorized by the PCF. To authorise the PDP context activation, the GGSN shall send a media authorisation request to the PCF. To authorise the PDP context modification, the GGSN shall send a media authorisation request to the PCF when the requested QoS exceeds the authorised QoS or new binding information is received.

This authorisation request shall include the following information:

- Binding information:

  The binding information is used by the GGSN to identify the correct PCF and subsequently request service-based local policy information from the PCF. The GGSN may receive one or more sets of the binding information during an activation or modification of a PDP context. Each binding information consists of:

  - One Authorisation token;
  - One or more Flow id(s) within the session.

It is assumed that only one set of binding information is carried within a PDP context in this Release.

2. Media authorisation decision from PCF:

   The media authorisation information sent by the PCF to the GGSN, contains at a minimum the following information:

   - Decision on the binding information.

   The PCF shall respond with an authorisation decision for the binding information. The authorisation decision shall identify that the binding information is validated with an ongoing SIP session. Additionally, the PCF shall verify if the multiple media components are correctly assigned to the PDP Context. If validated, the PCF shall also communicate the following media authorisation details to the GGSN:

   - "Authorised QoS".

     This information is used by the GGSN to authorise the media resources according to the service-based local policy and the requested bearer QoS.

     The "Authorised QoS" for media components signalled over the Go interface is based on the SDP requirements signalled and agreed previously within SIP signalling for this session.

     The "Authorised QoS" specifies the maximum QoS that is authorised for a PDP context for that specific binding information. In case of an aggregation of multiple media components within one PDP context, the combination of the "Authorised QoS" information of the individual media components is provided as the "Authorised QoS" for the bearer.

     The "Authorised QoS" contains the following information:

     - DiffServ class:

       The DiffServ class determines the highest QoS class that can be used for the media component. It is derived from the media type information of the SDP media description.

     - Data rate:

       The Data rate information is extracted from the SDP bandwidth parameter, more specifically the bandwidth value indicated by the "b=AS:" parameter. The Data rate shall include all the overhead coming from the IP-layer and the layers above, e.g. UDP, RTP. The Data rate shall also include the overhead coming from the possible usage of RTCP. The Data rate within the "Authorized QoS" information for the bearer is determined from the data rate values of the individual media components identified in the binding information.

   - Packet Classifier.

     The packet classifier for media components is based on the IP-address and port number information in the SDP and shall allow for all IP flows associated with the SDP media component description.

3. Charging correlation:

   The PCF shall send the ICID provided by the P-CSCF as part of the authorisation decision. The GGSN shall send the GCID of the PDP Context and the GGSN address to the PCF as part of the authorisation report.

[SKIPPED TEXT]

********** NEXT AMENDED SECTION **********

6.3.2 Message description

The Go interface uses the COPS-PR protocol.
The following messages and events are available on the Go interface:

- Authorisation_Request (GGSN→PCF):

  This event allows the GGSN to request authorisation details from the PCF. It contains the following information:

  - Client Handle;
  - Binding Information.

  The R-type = 0x08 for configuration request is used here and M-type = 0x02 create event state is used here.

- Authorisation_Decision (PCF→GGSN):

  This event provides the GGSN with the authorisation status, and relevant authorisation decision data if applicable. The event contains the following information:

  - Client Handle (only in the initial Authorisation_Decision);
  - ICID(s);
  - Unidirectional set (this parameter shall appear once for each direction (uplink and downlink)):
    - Direction indicator;
    - "Authorised QoS";
    - Gate description (this parameter shall appear once for each required gate for this direction):
      - Filter Specification - The information about the authorised IP end points addresses and ports is detailed below. The Filter Specification parameters are:
        - Source IP address;
        - Destination IP address;
        - Source ports;
        - Destination ports;
        - Protocol ID.

        The Source and Destination ports are described with a range consisting of a minimum and maximum value. If only one port is authorised, the minimum value and maximum value of the range are identical.

        A filter specification describing more than one IP flow shall be only used in case of identical Protocol IDs, IP addresses and successive port numbers (e.g. RTP and RTCP flow of a media component). Furthermore, the gate status of all IP flows described by this filter specification shall be identical, too.

        The Base and IP Filter definitions from the IETF Framework PIB [15] shall be used in the 3GPP Go PIB to represent the filter specification. Only a subset of the available filter attributes shall be used. The attributes frwkBaseFilterNegation, frwkIpFilterDscp, and frwkIpFilterFlowId in the filter description shall have the length field in its encoding set to 0 by the PCF to indicate they are not used. The GGSN shall ignore them if they are set otherwise.

      - Gate status (opened/closed)

Editor's note: The ICID issue should still be discussed in SA5.

The R-type = 0x08 for configuration request is used here and M-type = 0x02 create event state is used here.

- Authorisation_Failure (PCF→GGSN):

  This event provides the GGSN with an indication of an authorisation failure, and may carry additional reason details. The event contains the following information:

  - Client Handle;
  - Authorisation failure (including any provided reason information).

  The R-type = 0x08 for configuration request is used here and M-type = 0x04 terminate event state is used here.

- Gate Decision (PCF→GGSN):

  The Gate Decision indicates to the GGSN the new status of the gate(s) established for a client handle (PDP context). The gate status indicates to the GGSN that the gate shall be opened or closed. Only the gate(s) for which the status is changed are indicated by this event. The event contains the following information:

  - Client Handle;
  - Unidirectional set (this parameter shall appear once for each direction for which gates are being updated (uplink and/or downlink)):
    - Direction indicator;
    - Gate description (this parameter shall appear once for each gate to be modified for this direction) :
      - Filter Specification - The information about the authorised IP end points addresses and ports is detailed below. The Filter Specification parameters are:
        - Source IP address;
        - Destination IP address;
        - Source ports;
        - Destination ports;
        - Protocol ID.

        The Source and Destination ports are described with a range consisting of a minimum and maximum value. If only one port is authorised, the minimum value and maximum value of the range are identical.

        A filter specification describing more than one IP flow shall be only used in case of identical Protocol IDs, IP addresses and successive port numbers (e.g. RTP and RTCP flow of a media component). Furthermore, the gate status of all IP flows described by this filter specification shall be identical, too.

        The Base and IP Filter definitions from the IETF Framework PIB [15] shall be used in the 3GPP Go PIB to represent the filter specification. Only a subset of the available filter attributes shall be used. The attributes frwkBaseFilterNegation, frwkIpFilterDscp, and frwkIpFilterFlowId in the filter description shall have the length field in its encoding set to 0 by the PCF to indicate they are not used. The GGSN shall ignore them if they are set otherwise.

      - Gate status (opened/closed)

NOTE: The opening of the gate may occur at the same time / be part of the authorisation decision event.

The R-type = 0x08 for configuration request is used here and M-type = 0x03 update event state is used here.

- Report (RPT)s (GGSN→PCF):
  - Authorisation_report; Gate_report:

The GGSN sends a COPS RPT message back to the PCF reporting that it enforced or not the Authorisation_Decision, or the Gate_Decision.

The events contain the following information:

- Client Handle;
- Success / Failure.

- The Authorization_report of the initial Authorisation_Decision includes:
  - GCID;
  - GGSN address.
- Report of state changes:

  The GGSN sends the report of state change message to the PCF reporting that the maximum bit rate for the PDP context is modified to 0 kbit/s or that the maximum bit rate for the PDP context is changed from 0 kbit/s.

  The event contains the following information:

  - Client Handle;
  - Maximum bit rate (set to 0kbps / changed from 0 kbps).

- Delete request state (GGSN→PCF):

  The GGSN informs the PCF via the delete request state message, that the PDP context is deactivated and the request state identified by the client handle is no longer available/relevant at the GGSN, so the corresponding state shall also be removed at the PCF.

  The DRQ message includes the reason why the request state was deleted.

  The event contains the following information:

  - Client Handle;
  - Reason code: "Tear", Sub-code: deactivation of the PDP context.

- Remove_Decision (PCF→GGSN):

  The PCF uses the Remove_Decision to inform the GGSN that the PCF revokes the authorized resources for the client handle (PDP context).

  The event contains the following information:

  - Client Handle.

[SKIPPED TEXT]

********** NEXT AMENDED SECTION **********

Annex B (normative): 3GPP Go PIB

```
GO3GPP-PIB  PIB-DEFINITIONS ::= BEGIN

IMPORTS
    Unsigned32, Integer32, MODULE-IDENTITY,
    MODULE-COMPLIANCE, OBJECT-TYPE, OBJECT-GROUP, pib
            FROM COPS-PR-SPPI
    InstanceId, Prid
            FROM COPS-PR-SPPI-TC
    ZeroDotZero

    FROM SNMPv2-SMI

    InetAddress, InetAddressType,
    InetAddressPrefixLength, InetPortNumber
            FROM INET-ADDRESS-MIB

    DscpOrAny
          FROM DIFFSERV-DSCP-TC

     ;

go3gppPib  MODULE-IDENTITY
    SUBJECT-CATEGORIES   { go3gpp (xx) } -- Go 3GPP COPS Client Type
                                         -- xx to be assigned by IANA
    LAST-UPDATED "200211150000Z200209280000Z "
    ORGANIZATION "3GPP TSG CN WG3"
    CONTACT-INFO
                "Kwok Ho Chan
                 Nortel Networks
                 600 Technology Park Drive
                 Billerica, MA 01821 USA
                 Phone: +1 978 288 8175
                 Email: khchan@nortelnetworks.com

                 Louis-Nicolas Hamer
                 Nortel Networks
                 PO Box 3511 Station C
                 Ottawa, Ontario
                 Canada, K1Y 4H7
                 Phone: +1 613 768 3409
                 Email: nhamer@nortelnetworks.com"
    DESCRIPTION
            "A PIB module containing the set of provisioning
            classes that are required for support of policies for
            3GPP's GO interface, Release 5."
    REVISION "200211150000Z200209280000Z "
    DESCRIPTION
            "The 3GPP Go PIB for release 5.
            Annex B of 3GPP TS 29.207 v5.1.0"

    ::= { pib xxx } -- xxx to be assigned by IANA


--
-- The root OID for PRCs in the 3GPP GO PIB
--

go3gppCapabilityClasses      OBJECT IDENTIFIER ::= { go3gppPib 1 }
go3gppEventHandlerClasses    OBJECT IDENTIFIER ::= { go3gppPib 2 }
go3gppEventClasses           OBJECT IDENTIFIER ::= { go3gppPib 3 }
go3gppEventInfoClasses       OBJECT IDENTIFIER ::= { go3gppPib 4 }
go3gppReqInfoClasses         OBJECT IDENTIFIER ::= { go3gppEventInfoClasses 1 }
go3gppDecInfoClasses         OBJECT IDENTIFIER ::= { go3gppEventInfoClasses 2 }
go3gppReportClasses          OBJECT IDENTIFIER ::= { go3gppPib 5 }
go3gppConformance            OBJECT IDENTIFIER ::= { go3gppPib 6 }



-- ------------------------------------------------------------
--
-- Capability and Limitation Policy Rule Classes
```

```
   --

   --
   -- 3GPP GO Capability Table
   --

   go3gppAuthReqCapTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppAuthReqCapEntry
       PIB-ACCESS     notify
       STATUS         current
       DESCRIPTION
           "The 3GPP Go Authorization Request Capability PRC."
       ::= { go3gppCapabilityClasses 1 }


   go3gppAuthReqCapEntry OBJECT-TYPE
       SYNTAX         Go3gppAuthReqCapEntry
       STATUS         current
       DESCRIPTION
           "An instance of the go3gppAuthReqCap class identifies a
           specific PRC and associated attributes as supported
           by the device."

       PIB-INDEX { go3gppAuthReqCapPrid }
       UNIQUENESS { }
       ::= { go3gppAuthReqCapTable 1 }


   Go3gppAuthReqCapEntry ::= SEQUENCE {
           go3gppAuthReqCapPrid          InstanceId,
           go3gppAuthReqCapBindingInfos  Unsigned32,
           go3gppAuthReqCapFlowIds       Unsigned32
   }


   go3gppAuthReqCapPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppAuthReqCap class."
       ::= { go3gppAuthReqCapEntry 1 }


   go3gppAuthReqCapBindingInfos OBJECT-TYPE
       SYNTAX         Unsigned32
       STATUS         current
       DESCRIPTION
           "Indication of the maximum number of Binding Information
           the PEP can send with each Authorization Request.
           The value of zero indicates limit is not specified."
       DEFVAL  { 0 }
       ::= { go3gppAuthReqCapEntry 2 }


   go3gppAuthReqCapFlowIds OBJECT-TYPE
       SYNTAX         Unsigned32
       STATUS         current
       DESCRIPTION
           "Indication of the maximum number of Flow IDs the PEP can
           send with each Authorization Request.
           The value of zero indicates limit is not specified."
       DEFVAL  { 0 }
       ::= { go3gppAuthReqCapEntry 3 }


--
-- Go 3GPP Authorization Request Decision Capabilities
--

   go3gppAuthReqDecCapTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppAuthReqDecCapEntry
       PIB-ACCESS     notify
       STATUS         current
       DESCRIPTION
           "The 3GPP Go Authorization Request Decision Capability PRC."
       ::= { go3gppCapabilityClasses 2 }
```

```
go3gppAuthReqDecCapEntry OBJECT-TYPE
    SYNTAX         Go3gppAuthReqDecCapEntry
    STATUS         current
    DESCRIPTION
        "An instance of the go3gppAuthReqDecCap class identifies a
        specific PRC and associated attributes as supported
        by the device."

    PIB-INDEX { go3gppAuthReqDecCapPrid }
    UNIQUENESS { }
    ::= { go3gppAuthReqDecCapTable 1 }


Go3gppAuthReqDecCapEntry ::= SEQUENCE {
        go3gppAuthReqDecCapPrid           InstanceId,
        go3gppAuthReqDecCapIcids          Unsigned32
}

go3gppAuthReqDecCapPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of the go3gppAuthReqDecCap class."
    ::= { go3gppAuthReqDecCapEntry 1 }

go3gppAuthReqDecCapIcids OBJECT-TYPE
    SYNTAX         Unsigned32
    STATUS         current
    DESCRIPTION
        "Indication of the maximum number of Icid possible
        in a single Authorization Request Decision.
        The value of zero indicates limit is not specified."
    DEFVAL  { 0 }
    ::= { go3gppAuthReqDecCapEntry 2 }




--
-- Component Limitations Table
--
-- This table supports the ability to export information
-- detailing provisioning class/attribute implementation limitations
-- to the policy control function. This Component Limitiations Table
-- shall be implementation dependant and does not need to be standardized.


-- ------------------------------------------------------------
--
-- 3GPP GO Event Handler Provisioning Classes
--
-- PRCs sent from PCF to PEP for indicating how to handle each
-- kind of event that require actions by the GO interface.
--
-- For 3GPP Release 5, PRCs for Event Handling of Authorization
-- Request containing Binding Information, Flow IDs, and QoS is
-- specified.
--

--
-- 3GPP GO Authorization Request Event Handler Provisioning Table
--

go3gppAuthReqHandlerTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppAuthReqHandlerEntry
    PIB-ACCESS     install
    STATUS         current
    DESCRIPTION
        "PRC from PCF to PEP carried by COPS DEC messages
        indicating GO actions to take at the GGSN when an Authorization
        Request Event is detected by the GGSN.  An example of an
        Authorization Request Event is the receive of a PDP Context message."
    ::= { go3gppEventHandlerClasses 1 }


go3gppAuthReqHandlerEntry OBJECT-TYPE
```

```
    SYNTAX         Go3gppAuthReqHandlerEntry
    STATUS         current
    DESCRIPTION
        "An instance of the go3gppAuthReqHandler class sent by the PCF to
        the PEP what the PEP should send upon detection of an Authorization
        Request Event."
    PIB-INDEX { go3gppAuthReqHandlerPrid }
    UNIQUENESS { go3gppAuthReqHandlerEnable,
                 go3gppAuthReqHandlerBindingInfo
               }
    ::= { go3gppAuthReqHandlerTable 1 }


Go3gppAuthReqHandlerEntry ::= SEQUENCE {
        go3gppAuthReqHandlerPrid         InstanceId,
        go3gppAuthReqHandlerEnable       INTEGER,
        go3gppAuthReqHandlerBindingInfo  Unsigned32
}


go3gppAuthReqHandlerPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of this class."
    ::= { go3gppAuthReqHandlerEntry 1 }


go3gppAuthReqHandlerEnable OBJECT-TYPE
    SYNTAX         INTEGER {
                       enable(1),
                       disable(2)
                   }
    STATUS         current
    DESCRIPTION
        "Controls the usage of 3GPP Authorization Request Events
        to trigger COPS requests to PCF on the go interface."
    DEFVAL { enable }
    ::= { go3gppAuthReqHandlerEntry 2 }


go3gppAuthReqHandlerBindingInfo OBJECT-TYPE
    SYNTAX         Unsigned32
    STATUS         current
    DESCRIPTION
        "Indication of the maximum number of Binding Information
        be associated with a each Authorizating Request.
        The value of zero indicates policy control does not impose
        any limit."
    DEFVAL  { 0 }
    ::= { go3gppAuthReqHandlerEntry 3 }



-- ------------------------------------------------------------
--
-- 3GPP GO Event Classes
--
-- PRCs from PEP to PCF carried by COPS REQ messages
-- indicating the detection of specific events in the GGSN.
-- Information required for PCF to make decision on behave
-- of GGSN is also defined here to be carried by REQ messages.
--

--
-- 3GPP GO Authorization Request Event Table
--
go3gppAuthReqEventTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppAuthReqEventEntry
    PIB-ACCESS     notify
    STATUS         current
    DESCRIPTION
        "PRC for indication of Authorization Request Event
        and its relevant information.
        Sent by PEP to PCF upon receive of an Authorization
        Request.  Using COPS REQ message."
    ::= { go3gppEventClasses 1 }
```

```
go3gppAuthReqEventEntry OBJECT-TYPE
    SYNTAX         Go3gppAuthReqEventEntry
    STATUS         current
    DESCRIPTION
        "An entry in the Authorization Request Event Table
        describe a single Event sent by the PEP to the PCF."
    PIB-INDEX { go3gppAuthReqEventPrid }
    UNIQUENESS { }
    ::= { go3gppAuthReqEventTable 1 }


Go3gppAuthReqEventEntry ::= SEQUENCE {
        go3gppAuthReqEventPrid         InstanceId,
        go3gppAuthReqEventBindingInfos Prid
}


go3gppAuthReqEventPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of the go3gppAuthReqEvent class."
    ::= { go3gppAuthReqEventEntry 1 }


go3gppAuthReqEventBindingInfos OBJECT-TYPE
    SYNTAX         Prid
    STATUS         current
    DESCRIPTION
        "References the first of a list of go3gppBindingInfo
        class instances that are associated with this
        Authorization Request Event.
        A value of zeroDotZero indicates there are no
        go3gppBindingInfo class instance associated with
        this Authorization Event."
    ::= { go3gppAuthReqEventEntry 2 }


--
-- 3GPP Go Event Request Info Classes
--

--
-- 3GPP GO Binding Information Table
--
go3gppBindingInfoTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppBindingInfoEntry
    PIB-ACCESS     notify
    STATUS         current
    DESCRIPTION
        "PRC representing Binding Information.
        Sent by PEP to PCF as part of an Authorization
        Request.  In a COPS REQ message."
    ::= { go3gppReqInfoClasses 1 }


go3gppBindingInfoEntry OBJECT-TYPE
    SYNTAX         Go3gppBindingInfoEntry
    STATUS         current
    DESCRIPTION
        "An entry in the Binding Information Table
        describing a single Binding Info.
        Each entry is referenced by go3gppAuthReqEventBindingInfos
        or go3gppBindingInfoNext."
    PIB-INDEX { go3gppBindingInfoPrid }
    UNIQUENESS { }
    ::= { go3gppBindingInfoTable 1 }


Go3gppBindingInfoEntry ::= SEQUENCE {
        go3gppBindingInfoPrid          InstanceId,
        go3gppBindingInfoToken         OCTET STRING,
        go3gppBindingInfoFlowIds       Prid,
        go3gppBindingInfoNext          Prid
}
```

```
go3gppBindingInfoPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of the go3gppBindingInfo class."
    ::= { go3gppBindingInfoEntry 1 }


go3gppBindingInfoToken OBJECT-TYPE
    SYNTAX         OCTET STRING
    STATUS         current
    DESCRIPTION
        "The Authorization Token associated with this
        instance of the go3gppBindingInfo class.
        Each Binding Information must have a Token."
    ::= { go3gppBindingInfoEntry 2 }


go3gppBindingInfoFlowIds OBJECT-TYPE
    SYNTAX         Prid
    STATUS         current
    DESCRIPTION
        "References the first of a list of FlowIds associated
        with this instance of go3gppBindingInfo class.
        This is the anchor of a list of go3gppFlowIdEntry
        Instances.
        A value of zeroDotZero indicates an empty list which
        is an error condition."
    DEFVAL  { zeroDotZero }
    ::= { go3gppBindingInfoEntry 3 }


go3gppBindingInfoNext OBJECT-TYPE
    SYNTAX         Prid
    STATUS         current
    DESCRIPTION
        "References the next of a list of go3gppBindingInfo
        instances associated with an Authorization Request.
        A value of zeroDotZero indicates this is the last of
        a list of go3gppBindingInfo instances associated with
        an Authorization Request."
    DEFVAL  { zeroDotZero }
    ::= { go3gppBindingInfoEntry 4 }


--
-- 3GPP Go Authorization Request FlowID Table
--
go3gppFlowIdTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppFlowIdEntry
    PIB-ACCESS     notify
    STATUS         current
    DESCRIPTION
        "Represents the collection of FlowIDs."
    ::= { go3gppReqInfoClasses 2 }


go3gppFlowIdEntry OBJECT-TYPE
    SYNTAX         Go3gppFlowIdEntry
    STATUS         current
    DESCRIPTION
        "Each entry describes a single FlowID."
    PIB-INDEX { go3gppFlowIdPrid }
    UNIQUENESS { }
    ::= { go3gppFlowIdTable 1 }


Go3gppFlowIdEntry ::= SEQUENCE {
        go3gppFlowIdPrid         InstanceId,
        go3gppFlowIdFlowId       Unsigned32,
        go3gppFlowIdNext         Prid
}


go3gppFlowIdPrid OBJECT-TYPE
```

```
        SYNTAX         InstanceId
        STATUS         current
        DESCRIPTION
            "An arbitrary integer index that uniquely identifies an
            instance of the go3gppFlowId class."
        ::= { go3gppFlowIdEntry 1 }


    go3gppFlowIdFlowId OBJECT-TYPE
        SYNTAX         Unsigned32
        STATUS         current
        DESCRIPTION
            "The FlowId itself."
        ::= { go3gppFlowIdEntry 2 }


    go3gppFlowIdNext OBJECT-TYPE
        SYNTAX         Prid
        STATUS         current
        DESCRIPTION
            "References the next FlowId in the list associated with the
            same Binding Information of an Authorization Request.
            This points to a list of go3gppFlowIdEntry Instances.
            A value of zeroDotZero indicates end of the list."
        DEFVAL  { zeroDotZero }
        ::= { go3gppFlowIdEntry 3 }



    -- ------------------------------------------------------------
    --
    -- 3GPP Go Authorization Request Decisions
    --
    -- PRCs for carrying the Event Decision send from PCF to PEP,
    -- carried by the COPS DEC message.
    -- These PRCs include support for Gates/Filters, QoS, ICIDs.
    --


    -- We can define Failure Decisions by use of COPS-PR DEC message
    -- containing first an install decision (with objects indicating
    -- what failed and some indication to the GGSN how to react to this
    -- Error Decision), and second a remove decision (for cleanup of
    -- the installed Error Decision Object).
    --

-- Failures indicated by PCF to GGSN
--   Authorization Failure
--
    --
    -- Authorization Request Failure Decision Table
    --
    go3gppAuthReqFailDecTable OBJECT-TYPE
        SYNTAX         SEQUENCE OF Go3gppAuthReqFailDecEntry
        PIB-ACCESS     install
        STATUS         current
        DESCRIPTION
            "The Authorization failure Table. Indicates failures decisions to the PEP."
        ::= { go3gppDecInfoClasses 1 }


    go3gppAuthReqFailDecEntry OBJECT-TYPE
        SYNTAX         Go3gppAuthReqFailDecEntry
        STATUS         current
        DESCRIPTION
            "Each go3gppAuthReqFailDecEntry is per request."
        PIB-INDEX { go3gppAuthReqFailDecPrid }
        UNIQUENESS { }
        ::= { go3gppAuthReqFailDecTable 1 }


    Go3gppAuthReqFailDecEntry ::= SEQUENCE {
            go3gppAuthReqFailDecPrid        InstanceId,

            go3gppAuthReqFailDecReason      INTEGER
    }

    go3gppAuthReqFailDecPrid OBJECT-TYPE
```

```
        SYNTAX          InstanceId
        STATUS          current
        DESCRIPTION
            "An arbitrary integer index that uniquely identifies an
            instance of the go3gppAuthReqFailDec class."
        ::= { go3gppAuthReqFailDecEntry 1 }


    go3gppAuthReqFailDecReason OBJECT-TYPE
        SYNTAX          INTEGER {
                                        noCorrespondingImsSession (1),
                                        invalidBundling (2)
                                }
        STATUS          current
        DESCRIPTION
            "Reason for Auth Request Failure Decision given by PCF:

            noCorrespondingImsSession:    No corresponding IMS Session was found
                                        by the PCF

             invalidBundling:       In case the UE violates the IMS level indication,
                                                                    and  attempts to
    set up multiple IMS media components
                                                                    in a single PDP
    context despite of an indication that
                                                                    mandated separate
    PDP contexts."
        ::= { go3gppAuthReqFailDecEntry 2 }


    --
    -- Authorization Request Decision Table
    --
    go3gppAuthReqDecTable OBJECT-TYPE
        SYNTAX          SEQUENCE OF Go3gppAuthReqDecEntry
        PIB-ACCESS      install
        STATUS          current
        DESCRIPTION
            "The Authorization Request Decision Table. "
        ::= { go3gppDecInfoClasses 2 }


    go3gppAuthReqDecEntry OBJECT-TYPE
        SYNTAX          Go3gppAuthReqDecEntry
        STATUS          current
        DESCRIPTION
            "Each go3gppAuthReqDecEntry is per Authorization Request."
        PIB-INDEX { go3gppAuthReqDecPrid }
        UNIQUENESS { }
        ::= { go3gppAuthReqDecTable 1 }


    Go3gppAuthReqDecEntry ::= SEQUENCE {
            go3gppAuthReqDecPrid        InstanceId,
            go3gppAuthReqDecIcids       Prid,
            go3gppAuthReqDecDirDecs     Prid
    }


    go3gppAuthReqDecPrid OBJECT-TYPE
        SYNTAX          InstanceId
        STATUS          current
        DESCRIPTION
            "An arbitrary integer index that uniquely identifies an
            instance of the go3gppAuthReqDec class."
        ::= { go3gppAuthReqDecEntry 1 }


    go3gppAuthReqDecIcids OBJECT-TYPE
        SYNTAX          Prid
        STATUS          current
        DESCRIPTION
            "References the first of a list of IcIDs associated
            with this instance of go3gppAuthReqDec class.
            There should be one IcID on this list for each Binding
            Information in the corresponding Authorization Request.
```

```
            A value of zeroDotZero indicates an empty list and there
            is no IcID change associated with this Authorization Request
            Decision."
        DEFVAL  { zeroDotZero }
        ::= { go3gppAuthReqDecEntry 2 }


    go3gppAuthReqDecDirDecs OBJECT-TYPE
        SYNTAX          Prid
        STATUS          current
        DESCRIPTION
            "References the first of a list of Directional Decisions
            associated with this instance of go3gppAuthReqDec class.
            There should be at least one and at most two Directional
            Decisions per Authorization Request Decision.
            Hence a value of zeroDotZero is illegal."
        ::= { go3gppAuthReqDecEntry 3 }


--
-- 3GPP Go ICID Table
--
    go3gppIcidTable OBJECT-TYPE
        SYNTAX          SEQUENCE OF Go3gppIcidEntry
        PIB-ACCESS      install
        STATUS          current
        DESCRIPTION
            "Represents the collection of ICID entries"
        ::= { go3gppDecInfoClasses 3 }


    go3gppIcidEntry OBJECT-TYPE
        SYNTAX          Go3gppIcidEntry
        STATUS          current
        DESCRIPTION
            "Represents the ICID Entry"
        PIB-INDEX { go3gppIcidPrid }
        UNIQUENESS { go3gppIcidValue }
        ::= { go3gppIcidTable 1 }


    Go3gppIcidEntry ::= SEQUENCE {
            go3gppIcidPrid            InstanceId,
            go3gppIcidValue           OCTET STRING,
            go3gppIcidNext            Prid
    }


    go3gppIcidPrid OBJECT-TYPE
        SYNTAX          InstanceId
        STATUS          current
        DESCRIPTION
            "An arbitrary integer index that uniquely identifies an
            instance of the go3gppIcid class."
        ::= { go3gppIcidEntry 1 }


    go3gppIcidValue OBJECT-TYPE
        SYNTAX          OCTET STRING
        STATUS          current
        DESCRIPTION
            "The ICID itself. The syntax of this OBJECT-TYPE needs to be confirmed. "
        ::= { go3gppIcidEntry 2 }


    go3gppIcidNext OBJECT-TYPE
        SYNTAX          Prid
        STATUS          current
        DESCRIPTION
            "References the next go3gppIcidEntry of a list of IcIDs
            associated with this instance of go3gppAuthReqDec class.
            There should be one IcID on this list for each Binding
            Information in the corresponding Authorization Request.
            A value of zeroDotZero indicates the end of the list of
            IcIDs associated with an Authorization Request Decision."
        DEFVAL  { zeroDotZero }
        ::= { go3gppIcidEntry 3 }
```

```
--
-- 3GPP Go Authorization Request Directional Decision Table
--
   go3gppAuthReqDirDecTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppAuthReqDirDecEntry
       PIB-ACCESS     install
       STATUS         current
       DESCRIPTION
           "This table represents the authorization request decision for
           a unique direction (e.g. uplink and downlink)."
       ::= { go3gppDecInfoClasses 4 }


   go3gppAuthReqDirDecEntry OBJECT-TYPE
       SYNTAX         Go3gppAuthReqDirDecEntry
       STATUS         current
       DESCRIPTION
           "There should be one of these per direction per AuthReqDec."
       PIB-INDEX { go3gppAuthReqDirDecPrid }
       UNIQUENESS { }
       ::= { go3gppAuthReqDirDecTable 1 }


   Go3gppAuthReqDirDecEntry ::= SEQUENCE {
           go3gppAuthReqDirDecPrid      InstanceId,
           go3gppAuthReqDirDecDirection INTEGER,
           go3gppAuthReqDirDecQos       Prid,
           go3gppAuthReqDirDecGates     Prid,
           go3gppAuthReqDirDecNext      Prid
   }


   go3gppAuthReqDirDecPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppAuthReqDirDec class."
       ::= { go3gppAuthReqDirDecEntry 1 }


   go3gppAuthReqDirDecDirection OBJECT-TYPE
       SYNTAX         INTEGER {
                           uplink   (1),
                           downlink (2)
                      }
       STATUS         current
       DESCRIPTION
           "Indicates the direction this decision applies to."
       ::= { go3gppAuthReqDirDecEntry 2 }


   go3gppAuthReqDirDecQos OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           " The Authorized QoS. References the go3gppQos class."
       ::= { go3gppAuthReqDirDecEntry 3 }


   go3gppAuthReqDirDecGates OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "References the first instance of a list of the go3gppGate class."
       ::= { go3gppAuthReqDirDecEntry 4 }


   go3gppAuthReqDirDecNext OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "References the next instance of a list of
           go3gppAuthReqDirDec class."
       ::= { go3gppAuthReqDirDecEntry 5 }
```

```
--
-- 3GPP Go QoS Table
--
   go3gppQosTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppQosEntry
       PIB-ACCESS     install
       STATUS         current
       DESCRIPTION
           "This table represents the Authorised QoS.
           It is referenced by the go3gppAuthReqDirDecQos entry of the
           go3gppAuthReqDirDecEntry  class."
       ::= { go3gppDecInfoClasses 5 }


   go3gppQosEntry OBJECT-TYPE
       SYNTAX         Go3gppQosEntry
       STATUS         current
       DESCRIPTION
           "There should be one of these per direction per AuthReqDec."
       PIB-INDEX { go3gppQosPrid }
       UNIQUENESS { }
       ::= { go3gppQosTable 1 }



   Go3gppQosEntry ::= SEQUENCE {
           go3gppQosPrid               InstanceId,
           go3gppQosServiceClass       DscpOrAny,
           go3gppQosDataRateUnit       INTEGER,
           go3gppQosDataRate           Unsigned32
   }


   go3gppQosPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppQos class."
       ::= { go3gppQosEntry 1 }



   go3gppQosServiceClass OBJECT-TYPE
       SYNTAX         DscpOrAny
       STATUS         current
       DESCRIPTION
           "A Service Class Indication using DSCP Encoding."
       ::= { go3gppQosEntry 2 }


   go3gppQosDataRateUnit OBJECT-TYPE
       SYNTAX         INTEGER {
                        bps     (1),
                        kbps    (2),
                        mbps    (3)
                      }
       STATUS         current
       DESCRIPTION
           "Indication of the unit of measure for go3gppQosDataRate,
           in bits per second, kilo bits per second, or mega bits per

           second."
       ::= { go3gppQosEntry 3 }


   go3gppQosDataRate OBJECT-TYPE
       SYNTAX         Unsigned32
       STATUS         current
       DESCRIPTION
           "The Data Rate with unit of measure indicated by
           go3gppQosDataRateUnit."
       ::= { go3gppQosEntry 4 }



--
-- 3GPP Go Gate Decision Table
```

```
--
--
-- There could be one of these per direction per GateDec.
--
-- This is for changing Gating Status only when used alone
-- (not as part of Direction Decision).

-- go3gppGateDec is sent in a different COPS DEC message
-- from the DEC message carrying go3gppAuthReqDec.  PCF must
-- have sent a go3gppAuthReqDec before using go3gppGateDec.

   go3gppGateDecTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppGateDecEntry
       PIB-ACCESS     install
       STATUS         current
       DESCRIPTION
           "This table represents an updated gating decision."
       ::= { go3gppDecInfoClasses 6 }


   go3gppGateDecEntry OBJECT-TYPE
       SYNTAX         Go3gppGateDecEntry
       STATUS         current
       DESCRIPTION
           "There should be one of these per direction per AuthReqDec."
       PIB-INDEX { go3gppGateDecPrid }
       UNIQUENESS { }
       ::= { go3gppGateDecTable 1 }



   Go3gppGateDecEntry ::= SEQUENCE {
           go3gppGateDecPrid           InstanceId,
           go3gppGateDecDirection      INTEGER,
           go3gppGateDecGates          Prid,
           go3gppGateDecNext           Prid
   }


   go3gppGateDecPrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppGateDec class."
       ::= { go3gppGateDecEntry 1 }



   go3gppGateDecDirection OBJECT-TYPE
       SYNTAX         INTEGER {
                           uplink   (1),
                           downlink (2)
                      }
       STATUS         current
       DESCRIPTION
           "References the gate direction."
       ::= { go3gppGateDecEntry 2 }

    go3gppGateDecGates OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "References the first instance of a list of go3gppGate class."
       ::= { go3gppGateDecEntry 3 }


   go3gppGateDecNext OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "References the next instance of a list of go3gppGateDec class."
       ::= { go3gppGateDecEntry 4 }



--
```

```
-- 3GPP Go Gate Table
--


   go3gppGateTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppGateEntry
       PIB-ACCESS     install
       STATUS         current
       DESCRIPTION
           "PRC representing a Gate."
       ::= { go3gppDecInfoClasses 7 }


   go3gppGateEntry OBJECT-TYPE
       SYNTAX         Go3gppGateEntry
       STATUS         current
       DESCRIPTION
           "Each instance represents one Gate."
       PIB-INDEX { go3gppGatePrid }
       UNIQUENESS { }
       ::= { go3gppGateTable 1 }


   Go3gppGateEntry ::= SEQUENCE {
           go3gppGatePrid              InstanceId,
           go3gppGateFilter            Prid,
           go3gppGateStatus            INTEGER,
           go3gppGateNext              Prid
   }


   go3gppGatePrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gppGate class."
       ::= { go3gppGateEntry 1 }



   go3gppGateFilter OBJECT-TYPE
       SYNTAX         Prid
       STATUS         current
       DESCRIPTION
           "References an entry in frwkIpFilterTable (Framework PIB)
           that describes the applicable classification filter.

           When a gate decision requiring the definition of an IP filter
           is sent to the GGSN, the IP filter will be represented by the
           IP filter definition frwkIpFilterTable, provided by the
           Framework PIB, RFC 3318. Such IP filter frwkIpFilterTable
           must be part of the same Gate decision message. The attribute
           go3gppGateFilter is used to reference the frwkIpFilterTable
           entry for this Gate.

           The following attributes of the frwkIpFilterTable are not required,
           and shall have a length of 0 in its encoding:
           frwkBaseFilterNegation, frwkIpFilterDscp, and frwkIpFilterFlowId

           A value of zeroDotZero indicates no go3gppIpFfilter is
           used with this go3gppGate."
       ::= { go3gppGateEntry 2 }


   go3gppGateStatus OBJECT-TYPE

       SYNTAX         INTEGER {
                           close  (1),
                           open   (2)
                      }
       STATUS         current
       DESCRIPTION
           "Indicates if this gate will allow traffic to flow."
       DEFVAL  { close }
       ::= { go3gppGateEntry 3 }
```

```
    go3gppGateNext OBJECT-TYPE
        SYNTAX          Prid
        STATUS          current
        DESCRIPTION
            "Reference the next Gate on a list of go3gppGate instances.
            A value of zeroDotZero indicates this is the last Gate
            on the list."
        ::= { go3gppGateEntry 4 }
```

```
    --
    -- The Base Filter Table
    --

    go3gppBaseFilterTable OBJECT-TYPE
        SYNTAX          SEQUENCE OF Go3gppBaseFilterEntry
        PIB-ACCESS      install
        STATUS          current
        DESCRIPTION

            "The Base Filter class.  A packet has to match all
            fields in an Filter.  Wildcards may be specified for those
            fields that are not relevant."

        ::= { go3gppDecInfoClasses 8 }


    go3gppBaseFilterEntry OBJECT-TYPE
        SYNTAX          Go3gppBaseFilterEntry
        STATUS          current
        DESCRIPTION
            "An instance of the go3gppBaseFilter class."

        PIB-INDEX { go3gppBaseFilterPrid }
        UNIQUENESS { }        ::= { go3gppBaseFilterTable 1 }

    Go3gppBaseFilterEntry ::= SEQUENCE {
            go3gppBaseFilterPrid          InstanceId
    }


    go3gppBaseFilterPrid OBJECT-TYPE
        SYNTAX          InstanceId
        STATUS          current
        DESCRIPTION
            "An integer index to uniquely identify this Filter among all
            the Filters."

        ::= { go3gppBaseFilterEntry 1 }
```

```
    --
    -- The Go 3GPP IP Filter Table
    --

    go3gppIpFilterTable OBJECT-TYPE
        SYNTAX          SEQUENCE OF Go3gppIpFilterEntry
        PIB-ACCESS      install
        STATUS          current
        DESCRIPTION
            "Filter definitions.  A packet has to match all fields in a
            filter.  Wildcards may be specified for those fields that
            are not relevant."

        ::= { go3gppDecInfoClasses 9 }

    go3gppIpFilterEntry OBJECT-TYPE
        SYNTAX          Go3gppIpFilterEntry
        STATUS          current
        DESCRIPTION
            "An instance of the go3gppIpFilter class."

        EXTENDS { go3gppBaseFilterEntry }
```

```
        UNIQUENESS {
                        go3gppIpFilterAddrType,
                        go3gppIpFilterDstAddr,
                        go3gppIpFilterDstPrefixLength,
                        go3gppIpFilterSrcAddr,
                        go3gppIpFilterSrcPrefixLength,
                        go3gppIpFilterProtocol,
                        go3gppIpFilterDstL4PortMin,
                        go3gppIpFilterDstL4PortMax,
                        go3gppIpFilterSrcL4PortMin,
                        go3gppIpFilterSrcL4PortMax }

        ::= { go3gppIpFilterTable 1 }


    Go3gppIpFilterEntry ::= SEQUENCE {
            go3gppIpFilterAddrType          InetAddressType,
            go3gppIpFilterDstAddr           InetAddress,
            go3gppIpFilterDstPrefixLength   InetAddressPrefixLength,
            go3gppIpFilterSrcAddr           InetAddress,
            go3gppIpFilterSrcPrefixLength   InetAddressPrefixLength,
            go3gppIpFilterProtocol          Unsigned32,
            go3gppIpFilterDstL4PortMin      InetPortNumber,
            go3gppIpFilterDstL4PortMax      InetPortNumber,
            go3gppIpFilterSrcL4PortMin      InetPortNumber,
            go3gppIpFilterSrcL4PortMax      InetPortNumber
    }



    go3gppIpFilterAddrType OBJECT-TYPE

        SYNTAX          InetAddressType
        STATUS          current
        DESCRIPTION
            "The address type enumeration value to specify
             the type of the packet's IP address."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 1 }

    go3gppIpFilterDstAddr OBJECT-TYPE

        SYNTAX          InetAddress
        STATUS          current
        DESCRIPTION
            "The IP address to match against the packet's
             destination IP address. go3gppIpFilterDstPrefixLength
             indicates the number of bits that are relevant. "
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 2 }


    go3gppIpFilterDstPrefixLength OBJECT-TYPE
        SYNTAX          InetAddressPrefixLength
        STATUS          current
        DESCRIPTION
            "The length of a mask for the matching of the destination
             IP address.  Masks are constructed by setting bits in
             sequence from the most-significant bit downwards for
             go3gppIpFilterDstPrefixLength bits length. All other bits in
             the mask, up to the  number needed to fill the length of
             the address go3gppIpFilterDstAddr are cleared to zero. A zero
             bit in the mask then means that the corresponding bit in
             the address always matches."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 3 }



    go3gppIpFilterSrcAddr OBJECT-TYPE
        SYNTAX          InetAddress
        STATUS          current
        DESCRIPTION
```

```
            "The IP address to match against the packet's source IP
            address. go3gppIpFilterSrcPrefixLength indicates the
            number of bits that are relevant. "
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 4 }

    go3gppIpFilterSrcPrefixLength OBJECT-TYPE
        SYNTAX          InetAddressPrefixLength
        UNITS           "bits"
        STATUS          current

        DESCRIPTION
            "The length of a mask for the matching of the source IP
             address. Masks are constructed by setting bits in sequence
             from the most-significant bit downwards for
             go3gppIpFilterSrcPrefixLength bits length. All other bits in
             the mask, up to the  number needed to fill the length of
             the address go3gppIpFilterSrcAddr are cleared to zero.  A
             zero bit in the mask then means that the corresponding bit
             in the address always matches."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 5 }

    go3gppIpFilterProtocol OBJECT-TYPE
        SYNTAX          Unsigned32 (0..255)
        STATUS          current
        DESCRIPTION
            "The IP protocol to match against the packet's protocol.
             The value of 255 for IPv4 and
            value of Next-Header number 0 for IPv6 are reserved by IANA
            as the match-all values."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 6 }

    go3gppIpFilterDstL4PortMin OBJECT-TYPE
        SYNTAX          InetPortNumber
        STATUS          current
        DESCRIPTION
            "The minimum value that the packet's layer 4 destination
            port number can have and match this filter. This value must
            be equal to or lesser that the value specified for this
            filter in go3gppIpFilterDstL4PortMax."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 7 }


    go3gppIpFilterDstL4PortMax OBJECT-TYPE
        SYNTAX          InetPortNumber

        STATUS          current
        DESCRIPTION
            "The maximum value that the packet's layer 4 destination
            port number can have and match this filter. This value must
            be equal to or greater that the value specified for this
            filter in go3gppIpFilterDstL4PortMin."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 8 }


    go3gppIpFilterSrcL4PortMin OBJECT-TYPE
        SYNTAX          InetPortNumber
        STATUS          current
        DESCRIPTION
            "The minimum value that the packet's layer 4 source port
            number can have and match this filter. This value must
            be equal to or lesser that the value specified for this
            filter in go3gppIpFilterSrcL4PortMax."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 9 }


    go3gppIpFilterSrcL4PortMax OBJECT-TYPE
```

```
        SYNTAX          InetPortNumber
        STATUS          current
        DESCRIPTION
            "The maximum value that the packet's layer 4 source port
            number can have and match this filter.  This value must be
            equal to or greater that the value specified for this filter
            in go3gppIpFilterSrcL4PortMin."
        REFERENCE
            "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppIpFilterEntry 10 }
```

```
-- ------------------------------------------------------------
--
-- 3GPP Go Reports
--
-- PRCs for carrying the Decision enforcement result sent from PEP to PCF,
-- carried using the COPS REPORT message.
-- These PRCs include support for the success or failure of the PEP in
-- carrying out the PCF's decision or -change of the state in the GGSN.
--

go3gppReportTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppReportEntry
    PIB-ACCESS     notify
    STATUS         current
    DESCRIPTION
        "This table represents the success or failure of the decision enforcement and
        state changes in the PEP."
    ::= { go3gppReportClasses 1 }


go3gppReportEntry OBJECT-TYPE
    SYNTAX         Go3gppReportEntry
    STATUS         current
    DESCRIPTION
        ""
    PIB-INDEX { go3gppReportPrid }
    UNIQUENESS { }
    ::= { go3gppReportTable 1 }


Go3gppReportEntry ::= SEQUENCE {
        go3gppReportPrid       InstanceId,
        go3gppReportStatus     INTEGER,
        go3gppReportDetails    Prid }


go3gppReportPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of the go3gpgReport class."
        ::= { go3gppReportEntry 1 }


go3gppReportStatus OBJECT-TYPE
    SYNTAX         INTEGER {
                             success (1),
                             failure (2),
                             usage   (3) }
    STATUS         current
    DESCRIPTION
        "When Status is:
           success: Indicates the successful implementation of the
                    decision.
                    go3gppReportDetails:
                      Reference an instance of go3gppRprtGPRSChrgInfo
                      for initial authorization request decision;
                      References nothing otherwise (contains the value
```

```
                        zeroDotZero).

            Failure: Indicates the failure of implementing the decision.

                     go3gppReportDetails may references an Error object,
                     or may have the value zeroDotZero when no error
                     object is needed, in which case COPS and COPS-PR
                     error codes and error objects are sufficient.
            Usage:   go3gppReportDetails references an instance of
                     go3gppRprtUsage class."

    ::= { go3gppReportEntry 2 }


go3gppReportDetails OBJECT-TYPE
    SYNTAX         Prid
    STATUS         current
    DESCRIPTION
        "May reference an instance of go3gppRprtGPRSChrgInfo,
        go3gppRprtError(not defined), or go3gppRprtUsage class,
        or may have the value of zeroDotZero depending on the value of
        go3gppReportStatus."
    ::= { go3gppReportEntry 3 }


go3gppRprtGPRSChrgInfoTable OBJECT-TYPE
    SYNTAX         SEQUENCE OF Go3gppRprtGPRSChrgInfoEntry
    PIB-ACCESS     notify
    STATUS         current
    DESCRIPTION
        "This table represents the GPRS Charging information"
    ::= { go3gppReportClasses 2 }


go3gppRprtGPRSChrgInfoEntry OBJECT-TYPE
    SYNTAX         go3gppRprtGPRSChrgInfoEntry
    STATUS         current
    DESCRIPTION
        "This entry represents the GPRS Charging Identifier and GGSN address."
    PIB-INDEX { go3gppRprtGPRSChrgInfoPrid }
    UNIQUENESS { go3gppRprtGPRSChrgInfoAddrType,
                 go3gppRprtGPRSChrgInfoGGSNAddr,
                 go3gppRprtGPRSChrgInfoGCID }
    ::= { go3gppRprtGPRSChrgInfoTable 1 }


go3gppRprtGPRSChrgInfoEntry ::= SEQUENCE {
        go3gppRprtGPRSChrgInfoPrid       InstanceId,
        go3gppRprtGPRSChrgInfoAddrType   InetAddressType,
        go3gppRprtGPRSChrgInfoGGSNAddr   InetAddress,
        go3gppRprtGPRSChrgInfoGCID       OCTET STRING }


go3gppRprtGPRSChrgInfoPrid OBJECT-TYPE
    SYNTAX         InstanceId
    STATUS         current
    DESCRIPTION
        "An arbitrary integer index that uniquely identifies an
        instance of the go3gpgRprtGPRSChrgInfo class."
        ::= { go3gppRprtGPRSChrgInfoEntry 1 }

go3gppRprtGPRSChrgInfoAddrType OBJECT-TYPE
    SYNTAX         InetAddressType
    STATUS         current
    DESCRIPTION
        "The address type enumeration value to specify
         the type of the packet's IP address."
    REFERENCE
        "Textual Conventions for Internet Network Addresses [INETADDR]."
    ::= { go3gppRprtGPRSChrgInfoEntry 2 }

go3gppRprtGPRSChrgInfoGGSNAddr OBJECT-TYPE
    SYNTAX         InetAddress
    STATUS         current
    DESCRIPTION
        "Contains the IP Address of the GGSN providing the GCID
        upon successful handling of an Authorization Request."
    REFERENCE
```

```
          "Textual Conventions for Internet Network Addresses [INETADDR]."
        ::= { go3gppRprtGPRSChrgInfoEntry 3 }


   go3gppRprtGPRSChrgInfoGCID OBJECT-TYPE
       SYNTAX         OCTET STRING
       STATUS         current
       DESCRIPTION
           "The GPRS Charging ID related to this Authorization Request."
       ::= { go3gppRprtGPRSChrgInfoEntry 4 }


  --
  -- Notice go3gppRprtError PRC is currently not defined because all
  -- error condition handling is satisfactorily covered by using the
  -- standard COPS-PR error handling mechanism and error objects.
  -- go3gppRprtError PRC should only be used for 3GPP GO Application
  -- error indications if necessary.
  --

   go3gppRprtUsageTable OBJECT-TYPE
       SYNTAX         SEQUENCE OF Go3gppRprtUsageEntry
       PIB-ACCESS     notify
       STATUS         current
       DESCRIPTION
           ""
       ::= { go3gppReportClasses 3 }


   go3gppRprtUsageEntry OBJECT-TYPE
       SYNTAX         Go3gppRprtUsageEntry
       STATUS         current
       DESCRIPTION
           "This entry represents the PEP state changes."
       PIB-INDEX { go3gppRprtUsagePrid }
       UNIQUENESS { go3gppRprtUsageIndication }
       ::= { go3gppRprtUsageTable 1 }


   Go3gppRprtUsageEntry ::= SEQUENCE {
           go3gppRprtUsagePrid        InstanceId,
           go3gppRprtUsageIndication  INTEGER }



   go3gppRprtUsagePrid OBJECT-TYPE
       SYNTAX         InstanceId
       STATUS         current
       DESCRIPTION
           "An arbitrary integer index that uniquely identifies an
           instance of the go3gpgRprtUsage class."
           ::= { go3gppRprtUsageEntry 1 }


   go3gppRprtUsageIndication OBJECT-TYPE
       SYNTAX         INTEGER {
                        chngdTo0kbs   (1),
                        chngdFrom0kbs (2) }
       STATUS         current
       DESCRIPTION
           "Indication of GPRS Usage change.
           chngdTo0kbs indicates changing to 0kbs,
           chngdFrom0kbs indicates changing from 0kbs."
           ::= { go3gppRprtUsageEntry 2 }


   -- ------------------------------------------------------------
   --
   -- Conformance Section
   --

   go3gppCompliances         OBJECT IDENTIFIER ::= { go3gppConformance 1 }
   go3gppGroups                  OBJECT IDENTIFIER ::= { go3gppConformance 2 }


go3gppCompliance MODULE-COMPLIANCE
       STATUS  current
       DESCRIPTION
```

```
                "Describes the requirements for conformance to the
                3GPP GO PIB."


        MODULE FRAMEWORK-PIB
            MANDATORY-GROUPS {
                frwkPrcSupportGroup,
                frwkDeviceIdGroup,
                frwkBaseFilterGroup,
                frwkIpFilterGroup }


        MODULE GO3GPP-PIB -- this module
            MANDATORY-GROUPS {
                go3gppAuthReqCapGroup,
                go3gppAuthReqDecCapGroup,
                go3gppAuthReqHandlerGroup,
                go3gppAuthReqEventGroup,
                go3gppBindingInfoGroup,
                go3gppFlowIdGroup,
                go3gppAuthReqFailDecGroup,
                go3gppAuthReqDecGroup,
                go3gppIcidGroup,
                go3gppAuthReqDirDecGroup,
                go3gppQosGroup,
                go3gppGateDecGroup,
                go3gppGateGroup,
--SPPI does not allow the OBJECTS clause to be empty. Since there
--are no objects to report in the Base Filter group, it is commented out.
--              go3gppBaseFilterGroup,
                go3gppIpFilterGroup,
                go3gppReportGroup,
                go3gppRprtGPRSChrgInfoGroup,
                go3gppRprtUsageGroup }
        ::= { go3gppCompliances 1 }



   go3gppAuthReqCapGroup OBJECT-GROUP
       OBJECTS {
       go3gppAuthReqCapBindingInfos,
       go3gppAuthReqCapFlowIds
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB Objects that describe the
           Authorisation Request capabilities."
       ::= { go3gppGroups 1 }

go3gppAuthReqDecCapGroup OBJECT-GROUP
       OBJECTS {
     go3gppAuthReqDecCapIcids
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Authorisation Decision capabilities."
       ::= { go3gppGroups 2 }

go3gppAuthReqHandlerGroup OBJECT-GROUP
       OBJECTS {
     go3gppAuthReqHandlerEnable,
     go3gppAuthReqHandlerBindingInfo
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Authorisation request event handler."
       ::= { go3gppGroups 3 }

go3gppAuthReqEventGroup OBJECT-GROUP
       OBJECTS {
     go3gppAuthReqEventBindingInfos
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
```

```
          Objects that describe the Authorisation request events."
       ::= { go3gppGroups 4 }

go3gppBindingInfoGroup OBJECT-GROUP
       OBJECTS {
     go3gppBindingInfoToken,
     go3gppBindingInfoFlowIds,
     go3gppBindingInfoNext
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the binding information."
       ::= { go3gppGroups 5 }

go3gppFlowIdGroup OBJECT-GROUP
       OBJECTS {
     go3gppFlowIdFlowId,
     go3gppFlowIdNext
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the flow ID."
       ::= { go3gppGroups 6 }

go3gppAuthReqFailDecGroup OBJECT-GROUP
       OBJECTS {

     go3gppAuthReqFailDecReason
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Authorisation failure decisions."
       ::= { go3gppGroups 7 }

go3gppAuthReqDecGroup OBJECT-GROUP
       OBJECTS {
     go3gppAuthReqDecIcids,
     go3gppAuthReqDecDirDecs
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Authorisation decisions."
       ::= { go3gppGroups 8 }

go3gppIcidGroup OBJECT-GROUP
       OBJECTS {
     go3gppIcidValue,
     go3gppIcidNext
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the ICID."
       ::= { go3gppGroups 9 }

go3gppAuthReqDirDecGroup OBJECT-GROUP
       OBJECTS {
     go3gppAuthReqDirDecDirection,
     go3gppAuthReqDirDecQos,
     go3gppAuthReqDirDecGates,
     go3gppAuthReqDirDecNext
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the authorisation decision direction."
       ::= { go3gppGroups 10 }

go3gppQosGroup OBJECT-GROUP
       OBJECTS {
     go3gppQosServiceClass,
     go3gppQosDataRateUnit,
     go3gppQosDataRate
        }
```

```
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the QoS information."
       ::= { go3gppGroups 11 }

go3gppGateDecGroup OBJECT-GROUP
       OBJECTS {
     go3gppGateDecDirection,
     go3gppGateDecGates,
     go3gppGateDecNext
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the Gate decision."
       ::= { go3gppGroups 12 }

go3gppGateGroup OBJECT-GROUP
       OBJECTS {
     go3gppGateFilter,
     go3gppGateStatus,
     go3gppGateNext
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the gate."
       ::= { go3gppGroups 13 }

--SPPI does not allow the OBJECTS clause to be empty. Since there
--are no objects to report in this group, it is commented out.
--go3gppBaseFilterGroup OBJECT-GROUP
--        OBJECTS { }
--        STATUS current
--        DESCRIPTION
--           "This Group defines the PIB Objects that describe the base filter."
--        ::= { go3gppGroups 14 }

go3gppIpFilterGroup OBJECT-GROUP
       OBJECTS {
           go3gppIpFilterAddrType,
           go3gppIpFilterDstAddr,
           go3gppIpFilterDstPrefixLength,
           go3gppIpFilterSrcAddr,
           go3gppIpFilterSrcPrefixLength,
           go3gppIpFilterProtocol,
           go3gppIpFilterDstL4PortMin,
           go3gppIpFilterDstL4PortMax,
           go3gppIpFilterSrcL4PortMin,
           go3gppIpFilterSrcL4PortMax
        }
       STATUS current
       DESCRIPTION
           "This Group defines the PIB Objects that describe the IP Filter."
       ::= { go3gppGroups 14 }



go3gppReportGroup OBJECT-GROUP
       OBJECTS {
        go3gppReportStatus,
        go3gppReportDetails
        }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the PEP reports."
       ::= { go3gppGroups 145 }

go3gppRprtGPRSChrgInfoGroup OBJECT-GROUP
       OBJECTS {
            go3gppRprtGPRSChrgInfoAddrType,
        go3gppRprtGPRSChrgInfoGGSNAddr,
        go3gppRprtGPRSChrgInfoGCID
        }
       STATUS current
       DESCRIPTION
```

```
          "This Group defines the PIB
          Objects that describe the charging information."
       ::= { go3gppGroups 156 }

go3gppRprtUsageGroup OBJECT-GROUP
       OBJECTS {
           go3gppRprtUsageIndication
       }
       STATUS current
       DESCRIPTION
          "This Group defines the PIB
          Objects that describe the report usage."
       ::= { go3gppGroups 167 }


   END
```

END OF AMENDED SECTIONS

3GPP TSG-CN WG3 Meeting #26 ***Tdoc ⌘N3-020987***
Bangkok, Thailand, 11th – 15th November 2002.

CR-Form-v7

CHANGE REQUEST

⌘ **29.207** **CR** **057** ⌘ **rev** **1** ⌘ Current version: **5.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	IANA numbers: COPS client-type and PIB branch number
Source:	⌘	TSG_CN WG3
Work item code:	⌘	E2EQOS ***Date:*** ⌘ 23/09/2002
Category:	⌘	**F** ***Release:*** ⌘ Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	- The COPS client-type and PIB branch number are not currently specified in the specification.
Summary of change:	⌘	The COPS client-type 0x8009, as assigned by IANA, was added. The PIB branch number was added to the specification. The 3GPP Go PIB branch number is under the enterprise branch defined for 3GPP (10415 as defined @ http://iana.netnod.se/assignments/smi-numbers). MCC tracks all assignements under the 3GPP enterprise branch and has assigned the following numbering: A sub branch ".1" need to be created under the 3GPP enterprise branch (10415) for the 3GPP PIB. After this is defined, then a sub-branch ".1" within the 3GPP PIB, is created for the Go PIB.
Consequences if not approved:	⌘	The specification is incomplete.

Clauses affected:	⌘	6.3.1.1, Annex B.

Other specs Affected:	⌘	Y	N		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	The format: { 1.3.6.1.4.1.10415.1.1 } used is a full specification of object ID tree without dependencies on other documents to be published by 3GPP on how to use the sub-tree under 10415. When 3GPP had published such document the syntax should be changed and the format { 3gpp_pib 1 } used instead, adding the reference to the document

explaining that the meaning of 3gpp_pib is (1.3.6.1.4.1.10415.1).

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

First amended section

6.3.1.1 Common Header, Client Type

The COPS Client-type ~~is UMTS Go~~ number for go3gpp is 0x8009 (Client type number ~~to be was~~ assigned ~~through~~ by IANA).

Next amended section

Annex B (normative): 3GPP Go PIB

```
GO3GPP-PIB  PIB-DEFINITIONS ::= BEGIN

IMPORTS
    Unsigned32, Integer32, MODULE-IDENTITY,
    MODULE-COMPLIANCE, OBJECT-TYPE, OBJECT-GROUP~~, pib~~
            FROM COPS-PR-SPPI
    InstanceId, Prid
            FROM COPS-PR-SPPI-TC

    InetAddress, InetAddressType,
    InetAddressPrefixLength, InetPortNumber
            FROM INET-ADDRESS-MIB

   DscpOrAny
         FROM DIFFSERV-DSCP-TC
    ;

go3gppPib  MODULE-IDENTITY
    SUBJECT-CATEGORIES   { go3gpp (~~xx~~0x8009) } -- Go 3GPP COPS Client Type
                                    ~~-- xx to be assigned by IANA~~

    LAST-UPDATED "200211150000Z~~200208012200Z~~"
    ORGANIZATION "3GPP TSG CN WG3"
    CONTACT-INFO
                "Kwok Ho Chan
                 Nortel Networks
                 600 Technology Park Drive
                 Billerica, MA 01821 USA
                 Phone: +1 978 288 8175
                 Email: khchan@nortelnetworks.com

                 Louis-Nicolas Hamer
                 Nortel Networks
                 PO Box 3511 Station C
                 Ottawa, Ontario
                 Canada, K1Y 4H7
                 Phone: +1 613 768 3409
                 Email: nhamer@nortelnetworks.com"
    DESCRIPTION
            "A PIB module containing the set of provisioning
            classes that are required for support of policies for
            3GPP's GO interface, Release 5."
    REVISION "Release 5, v.1 "
    DESCRIPTION
            "This is version 1 of the 3GPP Go PIB for release 5."

        ::= { 1.3.6.1.4.1.10415.1.1 ~~pib xxx~~ } -- ~~xxx to be assigned by IANA--~~full specification of
object ID tree.
                                                -- The final syntax should be { 3gpp_pib 1 }
                                                -- With imports from the document that shows
                                                -- that 3gpp_pib means ( 1.3.6.1.4.1.10415.1 )
```

END

3GPP TSG-CN WG3 Meeting #26
Bangkok, Thailand, 11th – 15th november 2002.

Tdoc ⌘N3-020989

CR-Form-v7

CHANGE REQUEST

⌘ **29.207** **CR** **059** ⌘ **rev** **1** ⌘ Current version: **5.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	PIB references and clarifications
Source:	⌘	TSG_CN WG3
Work item code:	⌘	E2EQoS
Date:	⌘	11/11/2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change:	⌘	The PIB imports definitions from other PIB and MIB modules are listed in the beginning of the PIB definition, but there is no reference mentioned anywhere in 29.207 from where those modules can be found. A reference to the Framework PIB is missing.
Summary of change:	⌘	References to the PIB imports definitions and the Framework PIB are included.
Consequences if not approved:	⌘	Unclear references and definitions

Clauses affected:	⌘	2, Annex B

		Y	N	
Other specs affected:	⌘		X	Other core specifications⌘
			X	Test specifications
			X	O&M Specifications

Other comments: ⌘

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm.
Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

****** FIRST AMENDED SECTION **********

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.002: "Network architecture".

[3] 3GPP TS 23.207: "End to end quality of service concept and architecture".

[4] 3GPP TS 23.228: "IP Multimedia Subsystem (IMS); Stage 2".

[5] IETF RFC 2475: "An Architecture for Differentiated Services".

[6] IETF RFC 2753: "A Framework for Policy-based Admission Control".

[7] IETF RFC 2748: "The COPS (Common Open Policy Service) Protocol".

[8] IETF RFC 3084: "COPS Usage for Policy Provisioning (COPS-PR)".

[9] IETF RFC 3159: "Structure of Policy Provisioning Information (SPPI)".

[10] IETF RFC 2205: "Resource ReSerVation Protocol (RSVP) – Version 1 Functional Specification".

[11] IETF RFC tbd: "Session Authorisation for RSVP" (draft-ietf-rap-rsvp-authsession-03.txt).

[12] 3GPP TS 24.008: "Mobile Radio Interface Layer 3 specification; Core network protocols; Stage 3".

[13] 3GPP TS 27.060: "Mobile Station (MS) supporting Packet Switched Services".

[14] 3GPP TS 24.229: ” IP Multimedia Call Control Protocol based on SIP and SDP”

[15] IETF RFC 3318: "Framework Policy Information Base".

[16] IETF RFC 3289: "Management Information Base for the Differentiated Services Architecture"

[17] IETF RFC 2327: "SDP: Session Description Protocol".

[xx] IETF RFC 3291: “Textual Conventions for Internet Network Addresses”.

******* NEXT AMENDED SECTION *******

Annex B (normative): 3GPP Go PIB

```
   GO3GPP-PIB  PIB-DEFINITIONS ::= BEGIN

   IMPORTS
       Unsigned32, Integer32, MODULE-IDENTITY,
       MODULE-COMPLIANCE, OBJECT-TYPE, OBJECT-GROUP, pib
               FROM COPS-PR-SPPI          -- Defined in RFC 3159 [9]
       InstanceId, Prid
               FROM COPS-PR-SPPI-TC       -- Defined in RFC 3159 [9]

       InetAddress, InetAddressType,
       InetAddressPrefixLength, InetPortNumber
               FROM INET-ADDRESS-MIB      -- Defined in RFC 3291 [xx]

      DscpOrAny
            FROM DIFFSERV-DSCP-TC        --Defined in RFC 3289 [16]
        ;

   go3gppPib  MODULE-IDENTITY
       SUBJECT-CATEGORIES   { go3gpp (xx) } -- Go 3GPP COPS Client Type
                                            -- xx to be assigned by IANA
       LAST-UPDATED "200208012200Z"
       ORGANIZATION "3GPP TSG CN WG3"
       CONTACT-INFO
                   "Kwok Ho Chan
                    Nortel Networks
                    600 Technology Park Drive
                    Billerica, MA 01821 USA
                    Phone: +1 978 288 8175
                    Email: khchan@nortelnetworks.com

                    Louis-Nicolas Hamer
                    Nortel Networks
                    PO Box 3511 Station C
                    Ottawa, Ontario
                    Canada, K1Y 4H7
                    Phone: +1 613 768 3409
                    Email: nhamer@nortelnetworks.com"
       DESCRIPTION
               "A PIB module containing the set of provisioning
               classes that are required for support of policies for
               3GPP's GO interface, Release 5."
       REVISION "Release 5, v.1 "
       DESCRIPTION
               "This is version 1 of the 3GPP Go PIB for release 5."

       ::= { pib xxx } -- xxx to be assigned by IANA


[SKIPPED TEXT]


-- ------------------------------------------------------------
   --
   -- Conformance Section
   --

   go3gppCompliances         OBJECT IDENTIFIER ::= { go3gppConformance 1 }
   go3gppGroups                  OBJECT IDENTIFIER ::= { go3gppConformance 2 }


go3gppCompliance MODULE-COMPLIANCE
```

```
        STATUS  current
        DESCRIPTION
                "Describes the requirements for conformance to the
                3GPP GO PIB."


        MODULE FRAMEWORK-PIB               -- Defined in RFC 3318 [15]
            MANDATORY-GROUPS {
                frwkPrcSupportGroup,
                frwkDeviceIdGroup }


        MODULE GO3GPP-PIB -- this module
            MANDATORY-GROUPS {
                go3gppAuthReqCapGroup,
                go3gppAuthReqDecCapGroup,
                go3gppAuthReqHandlerGroup,
                go3gppAuthReqEventGroup,
                go3gppBindingInfoGroup,
                go3gppFlowIdGroup,
                go3gppAuthReqFailDecGroup,
                go3gppAuthReqDecGroup,
                go3gppIcidGroup,
                go3gppAuthReqDirDecGroup,
                go3gppQosGroup,
                go3gppGateDecGroup,
                go3gppGateGroup,
--SPPI does not allow the OBJECTS clause to be empty. Since there
--are no objects to report in the Base Filter group, it is commented out.
--              go3gppBaseFilterGroup,
                go3gppIpFilterGroup,
                go3gppReportGroup,
                go3gppRprtGPRSChrgInfoGroup,
                go3gppRprtUsageGroup }
        ::= { go3gppCompliances 1 }
```

3GPP TSG-CN WG3 Meeting #26
Bangkok, Thailand, 11th – 15th november 2002.

Tdoc ⌘N3-021022

CR-Form-v7

CHANGE REQUEST

⌘ **29.207** **CR** **071** ⌘ **rev** **2** ⌘ Current version: **5.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Go PIB clarifications
Source:	⌘	TSG_CN WG3
Work item code:	⌘	E2EQoS
Date:	⌘	11/11/2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change:	⌘	The necessary information to fully understand the use of Go PIB in the Go interface through the COPS protocol, is self cointained in TS 29.207 and the other Documents referenced in it. However, it is believed that an informative annex could be very useful for those readers approaching it for the first time. Our aim here is to be helpful with the whole community interested in this specification by providing with some text that clarifies how the Go PIB works.
Summary of change:	⌘	A new informative annex is included.
Consequences if not approved:	⌘	Some concepts may be not clear.

Clauses affected:	⌘	Annex added

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

****** ADDED SECTION **********

ANNEX X (informative):

Overview of the 3GPP Go PIB working mode.

When the GGSN initialise for the first time, the PEP instances are initialised. The GGSN will use a TCP connection with the PDF (that will be created as specified in the normative text above section 6.1.1) in order to transport COPS protocol

Then, the GGSN sends the first COPS REQ message to the PDF indicating capabilities and the supported PRCs. This is done using:

frwkSupportTable containing the supported PRCs and attributes.

frwkDeviceIdTable used to facilitate efficient policy communication by a PDP. The PDP can take into account certain device characteristics during policy installation as hardware and software of the GGSN, or maximum COPS-PR message size.

go3gppAuthReqCapTable indicating the maximum number of Binding Information and maximum number of Flow Identifiers the PEP can send with each Authorization Request.

go3gppAuthReqDecCapTable indicating the maximum number of ICID possible in a single Authorization Request Decision.

Then, the PDF send to the PEP PRCs for indicating how to handle each kind of event that require actions by the Go interface. This is done in a COPS DEC message using:

go3gppAuthReqHandlerTable indicating Go actions to take at the GGSN when an Authorization Request Event is detected by the GGSN (an example of an Authorization Request Event is the receive of a PDP Context message); the maximum number of Binding Information associated with each Authorization Request; and if COPS Req. can be triggered, are also indicated here.

Then, the GGSN will send PRCs to the PDF in a COPS REQ indicating the detection of specific events in the GGSN (i.e. when the GGSN receives the PDP context activation). Information required to PCF on behave of GGSN is carried also by REQ messages. This is done using:

go3gppAuthReqEventTable indicates Authorization Request Event and its relevant information (binding information **go3gppBindingInfoTable**, **go3gppFlowIDTable**).

Then, PRCs carrying the Event Decision sent from PDF to PEP are carried by the COPS DEC message. These PRCs include support for Gates/Filters, QoS, ICIDs.

If the authorization request is rejected (for reasons such as no corresponding session was found by the PCF, incorrect bundling and others) a COPS-PR DEC containing the reason (**go3gppAuthReqFailDecTable**) is sent.

If not, the following PRCs are sent:

go3gppAuthReqDecTable indicates an ICID for each binding information received. To do so, table **go3gppIcidTable** is used. Also for each binding information a Directional Decision is sent (**go3gppAuthreqDirDecTable**)

Within the later the following is indicated:

- The direction where the decision applies (uplink or downlink)

- The Auth QoS (**go3gppQoSTable**) indicating the service class through DSCP encoding, and the data rate to be applied in the PDP requesting authorization.

- The gate definition (**go3gppGateTable**): including status (open/closed), and Ip filter definition through the **frwkBaseFilterTable** and **frwkIpFilterTable** (which includes source and destination address, port, protocol, etc)

There is, also, the possibility of sending, in a different COPS DEC message from the one carrying the go3gppAuthReqDec, information about changing status of the Gate. This is done using the **go3gppGateDecTable**, that includes the direction which this decision applies and a reference to a go3gppGateTable.

Finally, the PEP will send to the PDF PRCs with the information on the Decision enforcement result. This is done in the COPS REPORT message. These PRCs include support for the success or failure of the PEP in carrying out the PDF's decision or change of the state in the GGSN, and are:

go3gppReportTable will indicate the status of the enforcement: success or failure or usage.

- If success, then, the **go3gppRprtGPRSChrgInfoTable** is sent to indicate the details for charging (GGSN address and GCID).

- If failure, then, the standard COPS-PR error handling mechanism and error objects are enough.

- Usage means that GPRS Usage has changed to 0kbps or from 0kbps. **go3gppUsageTable** is used.

To be conformant to the Go PIB, on top of the Go PIB PRCs defined in this document, is mandatory to include from the framework PIB: frwkPrcSupportGroup, frwkDeviceGroup.

To revoke authorization, the PDF or the GGSN can send a COPS DRQ message at any time that this action is required as specified in the normative text.

The Handle included in the COPS message will be used as the unique number to correlate all the COPS messages, with the same dialogue.