
Source: SA5 (Telecom Management)
Title: 2 Rel-4/5 CRs 32.614 (Bulk CM IRP CMIP solution set)
Document for: Approval
Agenda Item: 7.5.3

Doc-1st-	Spec	CR	R	Phase	Subject	Cat	Version	Doc-2nd-	Workitem
SP-020746	32.614	003	-	Rel-4	Correction of ASN.1/GDMO sources	F	4.2.0	S5-026951	OAM-CM
SP-020746	32.614	004	-	Rel-5	Alignment with the Rel-5 version of the Information Service in 32.612	F	4.3.0	S5-027016	OAM-NIM

CR-Form-v7
CHANGE REQUEST
⌘ 32.614 CR 003 ⌘ rev - ⌘ Current version: 4.2.0 ⌘

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:	⌘ Correction of ASN.1/GDMO sources		
Source:	⌘ SA5		
Work item code:	⌘ OAM-CM	Date:	⌘ 22/11/2002
Category:	⌘ F	Release:	⌘ Rel-4
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ Errors in the code
Summary of change:	⌘ Removal of syntax and semantic errors
Consequences if not approved:	⌘ Code not compilable

Clauses affected:	⌘ 5.1.6, 5.1.7, 5.1.9, 5.2.2 and ongoing clauses until end of TS.						
Other specs affected:	<table border="1" style="font-size: x-small;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X	X	Other core specifications	⌘
	Y	N					
	X	X					
<table border="1" style="font-size: x-small;"> <tr> <td style="width: 20px;">X</td> <td style="width: 20px;">X</td> </tr> </table>	X	X	Test specifications				
X	X						
<table border="1" style="font-size: x-small;"> <tr> <td style="width: 20px;">X</td> <td style="width: 20px;">X</td> </tr> </table>	X	X	O&M Specifications				
X	X						
Other comments:	⌘						

5.1.6 fallback (M)

fallback ACTION

BEHAVIOUR

fallbackBehaviour;

MODE

CONFIRMED;

WITH INFORMATION SYNTAX

TS32-614TypeModule.eCommon;

WITH REPLY SYNTAX

TS32-614TypeModule.eCommonReply;

REGISTERED AS {ts32-614Action 6};

fallbackBehaviour **BEHAVIOUR**

DEFINED AS

“A Manager invokes this operation to request an Agent to activate a fallback area if a previously ordered activation has failed.

The 'Action information' contains the following data:

- *sessionId*

This mandatory parameter identifies this specific session and process associated with an earlier bulk data operation e.g. upload or download for which the current log is required.

The 'Action response' is composed of the following data:

- *status*

It contains the results of this action. Possible values: noError (0), error (the value indicates the reason of the error).”;

5.1.7 abortSessionOperation (M)

abortSessionOperation ACTION

BEHAVIOUR

abortSessionOperationBehaviour;

MODE

CONFIRMED;

WITH INFORMATION SYNTAX

TS32-614TypeModule.Common;

WITH REPLY SYNTAX

TS32-614TypeModule.CommonReply;

REGISTERED AS {ts32-614Action 7};

abortSessionOperationBehaviour **BEHAVIOUR**

DEFINED AS

“A Manager invokes this operation to request an Agent to abort a currently activate asynchronous operation. The abort will cause the session state machine to exit the current state and enter a new state, see Clause 7 of 3GPP TS 32.612.

The 'Action information' contains the following data:

- *sessionId*

This mandatory parameter identifies this specific session and process associated with an earlier bulk data operation e.g. upload or download for which the abort is required.

The 'Action response' is composed of the following data:

- *status*

It contains the results of this action. Possible values: noError (0), error (the value indicates the reason of the error).”;

5.1.9 getSessionStatus (M)

getSessionStatus **ACTION**

BEHAVIOUR

getSessionStatusBehaviour;

MODE

CONFIRMED;

WITH INFORMATION SYNTAX

TS32-614TypeModule.Common;

WITH REPLY SYNTAX

TS32-614TypeModule.GetSessionStatusReply;

REGISTERED AS {ts32-614Action 9};

getSessionStatusBehaviour **BEHAVIOUR**

DEFINED AS

“A Manager invokes this operation to request an Agent to send the current state of the bulk data configuration file operation. The IRPAgent returns the current state. See Clause 7 of 3GPP TS 32.612.

The 'Action information' contains the following data:

- *sessionId*

This mandatory parameter identifies this specific session and process associated with an earlier bulk data operation e.g. upload or download for which the current status is required.

The 'Action response' is composed of the following data:

- *sessionState*

This mandatory parameter indicates current state of the configuration file operation. See Clause 7 of 3GPP TS 32.612.

- *status*

It contains the results of this action. Possible values: noError (0), error (the value indicates the reason of the error).”;

5.2.2 getSessionLogEnded (M)

getSessionLogEnded **NOTIFICATION**

BEHAVIOUR

getSessionLogEndedBehaviour;

WITH INFORMATION SYNTAX

TS32-614TypeModule.GetSessionLogEndedInfo

AND ATTRIBUTE IDS

notificationIdentifier "Recommendation X.721 1992E" : notificationIdentifier,
 sessionId sessionId,
 sourceIndicator "Recommendation X.721 1992E" : sourceIndicator,
 sessionState sessionState;

REGISTERED AS {ts32-614Notification 2};

~~getSessionLogEnded~~~~sessionStateChanged~~Behaviour **BEHAVIOUR**
DEFINED AS

” An Agent notifies a Manager that a requested GetSessionLog for a bulk data configuration file sessionId operation subscribed to by the Manager has ended successfully or unsuccessfully.

The 'Event Information' field contains the following data:

- *notificationIdentifier*

This ITU-T X.721 standardised parameter, together with MOI (Managed Object Instance), unambiguously identifies this notification.

- *sessionId*

This mandatory parameter identifies this specific session and process associated with an earlier bulk data operation e.g. upload or download for which the current status is required.

- *sourceIndicator*

This optional when present, indicates the source of the operation that led to the generation of this notification. It can have one of the following values:

- 1 resource operation: The notification was generated in response to an internal operation of the resource;
- 2 management operation: The notification was generated in response to a management operation applied across the managed object boundary external to the managed object;
- 3 unknown: It is not possible to determine the source of the operation. parameter identifies this specific session and process associated with an earlier bulk data operation e.g. upload or download for which the current status is required.

- *sessionLogStatus*

This mandatory parameter indicates event that caused the Notification i.e. Get log completed, Get Log Failed.”;

5.3 Attributes

5.3.1 sessionId

sessionId ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-614TypeModule.SessionId;
 MATCHES FOR EQUALITY;
 BEHAVIOUR

sessionIdBehaviour [BEHAVIOUR DEFINED AS](#)

[" This attribute identifies a specific session.";](#)

REGISTERED AS {ts32-614Attribute 1};

~~sessionIdBehaviour BEHAVIOUR~~

~~—DEFINED AS~~

~~—" This attribute identifies a specific session."~~

5.3.2 sessionState

sessionState ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-614TypeModule.SessionState;
 MATCHES FOR EQUALITY;

BEHAVIOUR

sessionStateBehaviour [BEHAVIOUR DEFINED AS](#)

["This attribute indicates the current state of the configuration data file operation. See Subclause 7.3.5 of 3GPP TS 32.612.";](#)

REGISTERED AS {ts32-614Attribute 2};

~~sessionStateBehaviour BEHAVIOUR~~

~~—DEFINED AS~~

~~—"This attribute indicates state transition. See Subclause 7.2 of 3GPP TS 32.612."~~

5.3.3 sessionLogStatus

sessionLogStatus ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-614TypeModule.SessionLogStatus;

MATCHES FOR EQUALITY;

BEHAVIOUR

[sSessionLogStatusBehaviour BEHAVIOUR DEFINED AS](#)

["This attribute indicates event that caused a getSessionLogEnded Notification, i.e. Get log completed, Get Log Failed.";](#)

REGISTERED AS {ts32-614Attribute 3};

~~sessionLogStatusBehaviour BEHAVIOUR~~

~~—DEFINED AS~~

~~—"This attribute indicates event that caused a getSessionLogEnded Notification, i.e. Get log completed, Get Log Failed."~~

6 ASN.1 definitions

```

TS32-614TypeModule { ccitt (0) identified-organization (4) etsi (0)
    mobileDomain (0) umts-Operation-Maintenance (3) ts-32-614 (614)
    informationModel (0) asn1Module (2) version1 (1) }

DEFINITIONS IMPLICIT TAGS ::=
BEGIN

--EXPORTS everything
IMPORTS
NotificationIdentifier, SourceIndicator
FROM Attribute-ASN1Module {joint-iso-ccitt ms(9) smi(3) part2(2) asn1Module(2) 1}
CMISFilter, ObjectInstance, Scope
FROM CMIP-1 {joint-iso-ccitt ms(9) cmip(1) modules(0) protocol(3)};

-- 3GPP TS 32.614 related Object Identifiers

baseNodeUMTS OBJECT IDENTIFIER ::= {itu-t(0) identified-organization(4) etsi(0) mobileDomain(0)
    umts-Operation-Maintenance(3)}
ts32-614 OBJECT IDENTIFIER ::= { baseNodeUMTS ts32-614(614)}
ts32-614InfoModel OBJECT IDENTIFIER ::= { ts32-614 informationModel(0)}

ts32-614ObjectClass OBJECT IDENTIFIER ::= { ts32-614InfoModel managedObjectClass(3)}
ts32-614Package OBJECT IDENTIFIER ::= { ts32-614InfoModel package(4)}
ts32-614Parameter OBJECT IDENTIFIER ::= { ts32-614InfoModel parameter(5)}
ts32-614NameBinding OBJECT IDENTIFIER ::= { ts32-614InfoModel nameBinding(6)}
ts32-614Attribute OBJECT IDENTIFIER ::= { ts32-614InfoModel attribute(7)}
ts32-614Action OBJECT IDENTIFIER ::= {ts32-614InfoModel action (9)}
ts32-614Notification OBJECT IDENTIFIER ::= {ts32-614InfoModel notification (10)}

-- Start of 3GPP SA5 own definitions

ErrorCauses ::= ENUMERATED
{
    noError (0), -- operation / notification successfully performed
    wrongSessionId (1), -- the value of the parameter SessionId is not known for the Agent
    unspecifiedErrorReason (255) -- operation failed, specific error unknown
}

SaveFallback ::= ENUMERATED
{
    enable (0), -- enable the fallback option
    disable (1) -- disable the fallback option
}

SessionId ::= GraphicString

Version ::= GraphicString

SessionState ::= ENUMERATED
{
    idle(0),
    uploadInProgress _____(1),
    uploadCompleted _____(2),
    uploadFailed _____(3),

```

```

downloadInProgress _____(4),
downloadCompleted _____(5),
downloadFailed _____(6),
activationInProgress _____(7),
activationCompleted _____(8),
activationFailed _____(9),
activationPartlyRealised _____(10),
fallbackInProgress _____(11),
fallbackCompleted _____(12),
fallbackFailed _____(13),
fallbackPartlyRealised _____(14)
}

```

SessionLogStatus ::= ENUMERATED

```

{
  getLogFailed      (0),
  getLogCompleted   (1)
}

```

ContentType ::= ENUMERATED

```

{
  completeLog (0),          -- complete log including errors
  errorLog (1)             -- only error log
}

```

FileReference ::= GraphicString

Common ::= SEQUENCE

```

{
  sessionId      SessionId
}

```

CommonReply ::= SEQUENCE

```

{
  status      ErrorCauses
}

```

Download ::= SEQUENCE

```

{
  sessionId      SessionId,
  downloadDataFileReference FileReference
}

```

Upload ::= SEQUENCE

```

{
  sessionId      SessionId,
  uploadDataFileReference FileReference,
  baseObjectInstance ObjectInstance, -- ITU-T X.711
  scope          Scope, -- ITU-T X.711
  filter         CMISFilter -- ITU-T X.711
}

```

Activate ::= SEQUENCE

```

{
  sessionId      SessionId,
  saveFallback    SaveFallback,
  status          ErrorCauses
}

```

GetSessionIdsReply ::= SEQUENCE


```

|   {
      sessionIdList    SEQUENCE OF {sessionId-SessionId},
      status           ErrorCauses
    }

```

GetSessionStatusReply ::= SEQUENCE

```

{
  sessionIdList    SessionId,
  status           ErrorCauses
}

```

GetSessionLog ::= SEQUENCE

```

{
  sessionId          SessionId,
  logFileReference  FileReference,
  contentType       ContentType,
  status            ErrorCauses
}

```

GetBulkCmIRPVersionReply ::= SEQUENCE

```

|   {
      versionList      SEQUENCE OF {vVersion-GraphicString},
      status           ErrorCauses
    }

```

SessionStateChangedInfo ::= SEQUENCE

```

{
  notificationIdentifier  NotificationIdentifier OPTIONAL, --ITU-T X.721
  sessionId              SessionId,
  sourceIndicator        SourceIndicator, -- ITU-T X.721
  sessionId              SessionId
}

```

GetSessionLogEndedInfo ::= SEQUENCE

```

{
  notificationIdentifier  NotificationIdentifier OPTIONAL, --ITU-T X.721
  sessionId              SessionId,
  sourceIndicator        SourceIndicator, -- ITU-T X.721
  sessionLogStatus       SessionLogStatus
}

```

END -- of module TS32-614TypeModule

Annex A (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Sep 2001	S_13	SP-010478	001	--	Correction due to TS renumbering	4.0.0	4.1.0
Jun 2002	S_16	SP-020296	002	--	Correction of behaviour for IS parameter "saveFallback" of IS operation "activate"	4.1.0	4.2.0
Nov 2002					Correction of some errors in the ASN.1/GDMO source	4.2.0	4.3.0

CR-Form-v7	
CHANGE REQUEST	
⌘ 32.614 CR 004 ⌘ rev - ⌘ Current version: 4.3.0 ⌘	

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Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Alignment with the Rel-5 version of the Information Service in 32.612		
Source:	⌘ SA5		
Work item code:	⌘ OAM-NIM	Date:	⌘ 22/11/2002
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ Rel 5 enhancements to 32.612 not yet implemented for 32.614
Summary of change:	⌘ Add activationMode to action activate, new actions preactivate and validate, correction of syntax and semantic errors in the ASN.1/GDMO code.
Consequences if not approved:	⌘ CMIP solution set series of 32.nnn in Rel-5 not complete.

Clauses affected:	⌘ Introduction, 4.2.1, 4.2.2, 5.1 ongoing until end of TS						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
	Y	N					
	<input type="checkbox"/>	<input checked="" type="checkbox"/>					
<input checked="" type="checkbox"/>	Test specifications						
<input checked="" type="checkbox"/>	O&M Specifications						
Other comments:	⌘						

Introduction

Configuration Management (CM), in general, provides the operator with the ability to assure correct and effective operation of the 3G network as it evolves. CM actions have the objective to control and monitor the actual configuration on the Network Element (NEs) and Network Resources (NRs), and they may be initiated by the operator or functions in the Operations Systems (OSs) or NEs.

CM actions may be requested as part of an implementation programme (e.g. additions and deletions), as part of an optimisation programme (e.g. modifications), and to maintain the overall Quality of Service. The CM actions are initiated either as a single action on a NE of the 3G network or as part of a complex procedure involving actions on many NEs.

~~Due to the growing number of specifications to model new services and Resource Models for Configuration Management (CM), as well as the expected growth in size of each of them from 3GPP Release 4 onwards, a new structure of the specifications is already needed in Release 4. This structure is needed for several reasons, but mainly to enable more independent development and release for each part, as well as a simpler document identification and version handling. Another benefit would be that it becomes easier for bodies outside 3GPP, such as the ITU-T, to refer to telecom management specifications from 3GPP. The new structure of the specifications does not lose any information or functionality supported by the Release 1999. The restructuring also includes defining new IRPs for the Network Resource Model (NRM) parts of R99 Basic CM IRP (Generic, Core Network and UTRAN NRM). These IRPs are named "Network Resources IRP".~~

~~Further, the Notification IRP (in Release 1999: 32.106-1 to -4) and the Name convention for Managed Objects (in Release 1999: 32.106-8) have been moved to a separate number series used for specifications common between several management areas (e.g. CM, FM, PM).~~

~~Finally, in addition to the restructuring mentioned above, the need to define some new functionality and IRPs for CM compared to Release 1999, has also been identified. Firstly, a new Bulk CM IRP, and secondly an a GERAN Network Resources IRP, have been created. Thirdly, the Generic, UTRAN and GERAN Network Resources IRPs have been extended with support for GSM-UMTS Inter-system handover (ISH), and the 32.600 (Concept and High-level Requirements) has been modified to cover the high-level Bulk CM and ISH requirements.~~

Table: Mapping between Release '99 and the new specification numbering scheme

R99 Old no.	Old (R99) specification title	Rel-4 New no.	New (Rel-4) specification title
32.106-1	3G Configuration Management: Concept and Requirements	32.600	3G Configuration Management: Concept and High-level Requirements
32.106-1	<Notification-IRP requirements from 32.106-1 and 32.106-2>	32.301	Notification-IRP: Requirements
32.106-2	Notification-IRP: IS	32.302	Notification-IRP: Information Service
32.106-3	Notification-IRP: CORBA-SS	32.303	Notification-IRP: CORBA-SS
32.106-4	Notification-IRP: CMIP-SS	32.304	Notification-IRP: CMIP-SS
32.106-8	Name-convention for Managed-Objects	32.300	Name-Convention for Managed-Objects
32.106-1	<Basic CM-IRP-IS requirements from 32.106-1 and 32.106-5>	32.601	Basic CM-IRP: Requirements
32.106-5	Basic CM-IRP-IM (Intro & IS-part)	32.602	Basic CM-IRP: Information-Service
32.106-6	Basic CM-IRP-CORBA-SS (IS-related-part)	32.603	Basic CM-IRP: CORBA-SS
32.106-7	Basic CM-IRP-CMIP-SS (IS-related-part)	32.604	Basic CM-IRP: CMIP-SS
32.106-8	Name-convention for Managed-Objects	32.300	Name-Convention for Managed-Objects
-	-	32.611	Bulk CM-IRP: Requirements
-	-	32.612	Bulk CM-IRP: Information-Service
-	-	32.613	Bulk CM-IRP: CORBA-SS
-	-	32.614	Bulk CM-IRP: CMIP-SS
		32.615	Bulk CM-IRP: XML file format definition
32.106-1	<Basic CM-IRP Generic-NRM requirements from 32.106-1 and 32.106-5>	32.621	Generic Network Resources-IRP: Requirements
32.106-5	Basic CM-IRP-IM (Generic-NRM-part)	32.622	Generic Network Resources-IRP: NRM
32.106-6	Basic CM-IRP-CORBA-SS (Generic-NRM-related-part)	32.623	Generic Network Resources-IRP: CORBA-SS
32.106-7	Basic CM-IRP-CMIP-SS (Generic-NRM-related-part)	32.624	Generic Network Resources-IRP: CMIP-SS
32.106-1	<Basic CM-IRP-CN-NRM requirements from 32.106-1 and 32.106-5>	32.631	Core Network Resources-IRP: Requirements
32.106-5	Basic CM-IRP-IM (CN-NRM-part)	32.632	Core Network Resources-IRP: NRM
32.106-6	Basic CM-IRP-CORBA-SS (CN-NRM-related-part)	32.633	Core Network Resources-IRP: CORBA-SS
32.106-7	Basic CM-IRP-CMIP-SS (CN-NRM-related-part)	32.634	Core Network Resources-IRP: CMIP-SS
32.106-1	<Basic CM-IRP-UTRAN-NRM requirements from 32.106-1 and 32.106-5>	32.641	UTRAN Network Resources-IRP: Requirements
32.106-5	Basic CM-IRP-IM (UTRAN-NRM-part)	32.642	UTRAN Network Resources-IRP: NRM
32.106-6	Basic CM-IRP-CORBA-SS (UTRAN-NRM-related-part)	32.643	UTRAN Network Resources-IRP: CORBA-SS
32.106-7	Basic CM-IRP-CMIP-SS (UTRAN-NRM-related-part)	32.644	UTRAN Network Resources-IRP: CMIP-SS
		32.651	GERAN Network Resources-IRP: Requirements
		32.652	GERAN Network Resources-IRP: NRM
		32.653	GERAN Network Resources-IRP: CORBA-SS
		32.654	GERAN Network Resources-IRP: CMIP-SS

4.2.1 Mapping of Operations

The table below shows the mapping relation between the technology independent operations defined in 3GPP TS 32.612 and the CMIP actions specified in this document.

Table 1: Mapping of operations

technology independent operations defined in 3GPP TS 32.612	CMIP actions specified in this document	Qualifiers of the CMIP actions specified in this document
startSession	startSession	M
endSession	endSession	M
upload	upload	M
download	download	M
validate	validate	O
preactivate	preactivate	O
activate	activate	M
fallback	fallback	M
abortSessionOperation	abortSessionOperation	M
getSessionIds	getSessionIds	M
getSessionStatus	getSessionStatus	M
getSessionLog	getSessionLog	M
GetBulkCMIRPVersion	getBulkCMIRPVersion	M

4.2.2 Mapping of Operation Parameters

The following sub-clauses map the parameters of each technology independent operations defined in the 3GPP TS 32.612 to the parameters of the corresponding CMIP actions specified in this document.

4.2.2.1 Mapping of Parameters of the Operation startSession

Table 2 Mapping of parameters of the operation startSession

parameters of the technology independent operation 'startSession' defined in the 3GPP TS 32.612	parameters of the CMIP action 'startSession' specified in this document	Qualifier of the parameters of the CMIP action 'startSession' specified in this document
sessionId	sessionId	Action information, M
status	status	Action response, M

4.2.2.2 Mapping of Parameters of the Operation endSession

Table 3: Mapping of parameters of the operation endSession

parameters of the technology independent operation 'endSession' defined in the 3GPP TS 32.612	parameters of the CMIP action 'endSession' specified in this document	Qualifier of the parameters of the CMIP action 'endSession' specified in this document
sessionId	sessionId	Action information, M
status	status	Action response, M

4.2.2.3 Mapping of Parameters of the Operation upload

Table 4: Mapping of parameters of the operation upload

parameters of the technology independent operation 'upload' defined in the 3GPP TS 32.612	parameters of the CMIP action 'upload' specified in this document	Qualifier of the parameters of the CMIP action 'upload' specified in this document
sessionId	sessionId	Action information, M
uploadDataFile	uploadDataFile	Action information, M
baseObjectInstance	baseObjectInstance	Action information, M
scope	scope	Action information, M
filter	filter	Action information, M
status	status	Action response, M

4.2.2.4 Mapping of Parameters of the Operation download

Table 5: Mapping of parameters of the operation download#

parameters of the technology independent operation 'download' defined in the 3GPP TS 32.612	parameters of the CMIP action 'download' specified in this document	Qualifier of the parameters of the CMIP action 'download' specified in this document
sessionId	sessionId	Action information, M
downloadDataFile	downloadDataFile	Action information, M
status	status	Action response, M

4.2.2.5 Mapping of Parameters of the Operation activate

Table 6: Mapping of parameters of the operation activate

parameters of the technology independent operation 'activate' defined in the 3GPP TS 32.612	parameters of the CMIP action 'activate' specified in this document	Qualifier of the parameters of the CMIP action 'activate' specified in this document
sessionId	sessionId	Action information, M
activationMode	activationMode	Action information, O
fallbackEnabled	saveFallback	Action information, M
status	status	Action response, M

4.2.2.6 Mapping of Parameters of the Operation fallback

Table 7: Mapping of parameters of the operation fallback

parameters of the technology independent operation 'fallback' defined in the 3GPP TS 32.612	parameters of the CMIP action 'fallback' specified in this document	Qualifier of the parameters of the CMIP action 'fallback' specified in this document
sessionId	sessionId	Action information, M
status	status	Action response, M

4.2.2.7 Mapping of Parameters of the Operation abortSessionOperation

Table 8: Mapping of parameters of the operation abortSessionOperation

parameters of the technology independent operation 'abortSessionOperation' defined in the 3GPP TS 32.612	parameters of the CMIP action 'abortSessionOperation' specified in this document	Qualifier of the parameters of the CMIP action 'abortSessionOperation' specified in this document
sessionId	sessionId	Action information, M
status	status	Action response, M

4.2.2.8 Mapping of Parameters of the Operation getSessionIds

Table 9: Mapping of parameters of the operation getSessionIds

parameters of the technology independent operation 'getSessionIds' defined in the 3GPP TS 32.612	parameters of the CMIP action 'getSessionIds' specified in this document	Qualifier of the parameters of the CMIP action 'getSessionIds' specified in this document
sessionIdList	sessionIdList	Action response, M
status	status	Action response, M

4.2.2.9 Mapping of Parameters of the Operation getSessionStatus

Table 10: Mapping of parameters of the operation getSessionStatus

parameters of the technology independent operation 'getSessionStatus' defined in the 3GPP TS 32.612	parameters of the CMIP action 'getSessionStatus' specified in this document	Qualifier of the parameters of the CMIP action 'getSessionStatus' specified in this document
sessionIdList	sessionIdList	Action information, M
sessionState	sessionState	Action response, M
status	status	Action response, M

4.2.2.10 Mapping of Parameters of the Operation getSessionLog

Table 11: Mapping of parameters of the operation getSessionLog

parameters of the technology independent operation 'getSessionLog' defined in the 3GPP TS 32.612	parameters of the CMIP action 'getSessionLog' specified in this document	Qualifier of the parameters of the CMIP action 'getSessionLog' specified in this document
sessionIdList	sessionIdList	Action information, M
logFileReference	logFileReference	Action information, M
contentType	contentType	Action information, M
status	status	Action response, M

4.2.2.11 Mapping of Parameters of the Operation getBulkCmIRPVersion

Table 12: Mapping of parameters of the operation getBulkCmIRPVersion

parameters of the technology independent operation 'getBulkCmIRPVersion' defined in the 3GPP TS 32.612	parameters of the CMIP action 'getBulkCmIRPVersion' specified in this document	Qualifier of the parameters of the CMIP action 'getBulkCmIRPVersion' specified in this document
sessionIdList	sessionIdList	Action information, M
status	status	Action response, M

[4.2.2.11 Mapping of Parameters of the Operation validate](#)

[Table 12: Mapping of parameters of the operation validate](#)

parameters of the technology independent operation 'validate' defined in the 3GPP TS 32.612	parameters of the CMIP action 'validate' specified in this document	Qualifier of the parameters of the CMIP action 'validate' specified in this document
sessionId	sessionId	Action information, M
activationMode	activationMode	Action informaion, O
status	status	Action response, M

4.2.2.11 Mapping of Parameters of the Operation preactivate

Table 12: Mapping of parameters of the operation preactivate

<u>parameters of the technology independent operation 'preactivate' defined in the 3GPP TS 32.612</u>	<u>parameters of the CMIP action 'preactivate' specified in this document</u>	<u>Qualifier of the parameters of the CMIP action 'preactivate' specified in this document</u>
sessionId	sessionId	Action information, M
verificationMode	verificationMode	Action informaion, O
activationMode	activationMode	Action informaion, O
fallbackEnabled	saveFallback	Action information, M
status	status	Action response, M

5 GDMO definitions

5.1 Actions

5.1.1 startSession (M)

startSession **ACTION**
BEHAVIOUR
 startSessionBehaviour;
MODE
 CONFIRMED;
WITH INFORMATION SYNTAX
 TS32-614TypeModule.Common;
WITH REPLY SYNTAX
 TS32-614TypeModule.CommonReply;
REGISTERED AS {ts32-614Action 1};

startSessionBehaviour **BEHAVIOUR**

DEFINED AS

”A Manager invokes this operation to start a session state machine as defined in 3GPP TS 32.612 and initialise temporary entities to be related with bulk data configuration sessionId in an Agent.

The 'Action information' contains the following data:

- *sessionId*

This mandatory parameter identifies the new session and process to be associated with a bulk data operation e.g. upload or download.

The 'Action response' is composed of the following data:

- *status*

It contains the results of this action. Possible values: noError (0), error (the value indicates the reason of the error).”;

5.1.2 endSession (M)

endSession **ACTION**
BEHAVIOUR
 endSessionBehaviour;
MODE
 CONFIRMED;
WITH INFORMATION SYNTAX
 TS32-614TypeModule.Common;
WITH REPLY SYNTAX
 TS32-614TypeModule.CommonReply;
REGISTERED AS {ts32-614Action 2};

endSessionBehaviour **BEHAVIOUR**

DEFINED AS

“A Manager invokes this operation to end a session state machine as defined in 3GPP TS32.612 and delete all temporary entities and their related bulk data configuration for a specified sessionId in an Agent. The deletion will be rejected if the configuration state is in a working state: e.g. uploading (including getting a log), downloading or activating.

The 'Action information' contains the following data:

- *sessionId*

This mandatory parameter identifies this specific session and process associated with an earlier bulk data operation e.g. upload or download.

The 'Action response' is composed of the following data:

- *status*

It contains the results of this action. Possible values: noError (0), error (the value indicates the reason of the error).”;

5.1.3 upload (M)

upload **ACTION**

BEHAVIOUR

uploadBehaviour;

MODE

CONFIRMED;

WITH INFORMATION SYNTAX

TS32-614TypeModule.Upload;

WITH REPLY SYNTAX

TS32-614TypeModule.CommonReply;

REGISTERED AS {ts32-614Action 3};

uploadBehaviour **BEHAVIOUR**

DEFINED AS

“A Manager invokes this operation to request an Agent to create a file containing bulk configuration data (as defined in 3GPP TS 32.615 and in Claus 8 of the 3GPP TS 32.612) and transfer the file to the indicated globally unique data file reference.

The 'Action information' contains the following data:

- *sessionId*

This mandatory parameter identifies this specific session and process associated with the requested bulk data upload.

- *uploadDataFileReference*

This mandatory parameter specifies a globally unique file reference to where the specified scope of bulk data is to be uploaded and stored.

- *baseObjectInstance*

This mandatory parameter specifies a MO where the search starts. This is a full Distinguished Name.

- *scope*

This mandatory parameter defines how many levels of the containment hierarchy to search (i.e. apply the filter defined below). The search starts from the MO given by the baseObjectInstance parameter. The levels of search that may be performed are:

1. the base object alone (default);
2. the n-th level subordinates of the base object;
3. the base object and all of its subordinates down to and including the n-th level;
4. the base object and all of its subordinates.

- *filter*

This mandatory parameter defines a filter test to be applied to the scoped Managed Object(s). If the filter is empty, all of the managed objects included by the scope are selected.

The 'Action response' is composed of the following data:

- *status*

It contains the results of this action. Possible values: noError (0), error (the value indicates the reason of the error).”;

5.1.4 download (M)

download **ACTION**
BEHAVIOUR
 downloadBehaviour;
MODE
 CONFIRMED;
WITH INFORMATION SYNTAX
 TS32-614TypeModule.Download;
WITH REPLY SYNTAX
 TS32-614TypeModule.CommonReply;
REGISTERED AS {ts32-614Action 4};

downloadBehaviour **BEHAVIOUR**

DEFINED AS

“A Manager invokes this operation to request an Agent to activate previously downloaded bulk configuration data (as defined in 3GPP TS 32.615 and in Claus 8 of the 3GPP TS 32.612). Activate means that operations specified in a previously downloaded configuration file, for example create, delete and modify of managed objects are carried out on the live network i.e. mobile subscribers are affected by the downloaded configuration.

The 'Action information' contains the following data:

- *sessionId*

This mandatory parameter identifies this specific session and process associated with the requested bulk data download.

- *downloadDataFileReference*

This mandatory parameter identifies specifies a globally unique file reference from where the data to be fetched and download from.

The 'Action response' is composed of the following data:

- *status*

It contains the results of this action. Possible values: noError (0), error (the value indicates the reason of the error).”;

5.1.5 activate (M)

activate **ACTION**
BEHAVIOUR
 activateBehaviour;
MODE
 CONFIRMED;
WITH INFORMATION SYNTAX
 TS32-614TypeModule.Activate;
WITH REPLY SYNTAX
 TS32-614TypeModule.CommonReply;
REGISTERED AS {ts32-614Action 5};

activateBehaviour **BEHAVIOUR**

DEFINED AS

“A Manager invokes this operation to request an Agent to activate previously downloaded bulk configuration data (as defined in 3GPP TS 32.615 and in Claus 8 of the 3GPP TS 32.612). Activate means that operations specified in a previously downloaded configuration file, for example create, delete and modify of managed objects are carried out on the live network i.e. mobile subscribers are affected by the downloaded configuration.

The 'Action information' contains the following data:

- *sessionId*

This mandatory parameter identifies this specific session and process associated with an earlier bulk data download that is required to be activated.

- *saveFallback*

This mandatory parameter indicates whether or not it is required to initialise and enable fallback option prior to the activation.

The 'Action response' is composed of the following data:

- *status*

It contains the results of this action. Possible values: noError (0), error (the value indicates the reason of the error).”;

5.1.6 fallback (M)

fallback **ACTION**

BEHAVIOUR

fallbackBehaviour;

MODE

CONFIRMED;

WITH INFORMATION SYNTAX

TS32-614TypeModule.eCommon;

WITH REPLY SYNTAX

TS32-614TypeModule.eCommonReply;

REGISTERED AS {ts32-614Action 6};

fallbackBehaviour **BEHAVIOUR**

DEFINED AS

“A Manager invokes this operation to request an Agent to activate a fallback area if a previously ordered activation has failed.

The 'Action information' contains the following data:

- *sessionId*

This mandatory parameter identifies this specific session and process associated with an earlier bulk data operation e.g. upload or download for which the current log is required.

The 'Action response' is composed of the following data:

- *status*

It contains the results of this action. Possible values: noError (0), error (the value indicates the reason of the error).”;

5.1.7 abortSessionOperation (M)

abortSessionOperation **ACTION**
BEHAVIOUR
 abortSessionOperationBehaviour;
MODE
 CONFIRMED;
WITH INFORMATION SYNTAX
 TS32-614TypeModule.Common;
WITH REPLY SYNTAX
 TS32-614TypeModule.CommonReply;
REGISTERED AS {ts32-614Action 7};

abortSessionOperationBehaviour **BEHAVIOUR**

DEFINED AS

“A Manager invokes this operation to request an Agent to abort a currently activate asynchronous operation. The abort will cause the session state machine to exit the current state and enter a new state, see Clause 97 of 3GPP TS 32.612.

The 'Action information' contains the following data:

- *sessionId*

This mandatory parameter identifies this specific session and process associated with an earlier bulk data operation e.g. upload or download for which the abort is required.

The 'Action response' is composed of the following data:

- *status*

It contains the results of this action. Possible values: noError (0), error (the value indicates the reason of the error).”;

5.1.8 getSessionIds (M)

getSessionId **ACTION**
BEHAVIOUR
 getSessionIdBehaviour;
MODE
 CONFIRMED;
WITH REPLY SYNTAX
 TS32-614TypeModule.GetSessionIdsReply;
REGISTERED AS {ts32-614Action 8};

getSessionIdBehaviour **BEHAVIOUR**

DEFINED AS

“A Manager invokes this operation to request an Agent to return a list of all its currently open sessionIds.

The 'Action response' is composed of the following data:

- *sessionIdList*

This mandatory parameter is a list of all the sessionID an Agent currently has open i.e. started with startSession and not ended with endSession operations.

- *status*

It contains the results of this action. Possible values: noError (0), error (the value indicates the reason of the error).”;

5.1.9 getSessionStatus (M)

getSessionStatus **ACTION**
BEHAVIOUR
 getSessionStatusBehaviour;
MODE
 CONFIRMED;
WITH INFORMATION SYNTAX
 TS32-614TypeModule.Common;
WITH REPLY SYNTAX
 TS32-614TypeModule.GetSessionStatusReply;
REGISTERED AS {ts32-614Action 9};

getSessionStatusBehaviour **BEHAVIOUR**

DEFINED AS

“A Manager invokes this operation to request an Agent to send the current state of the bulk data configuration file operation. The IRPAgent returns the current state. See Clause [79](#) of 3GPP TS 32.612.

The 'Action information' contains the following data:

- *sessionId*

This mandatory parameter identifies this specific session and process associated with an earlier bulk data operation e.g. upload or download for which the current status is required.

The 'Action response' is composed of the following data:

- *sessionState*

This mandatory parameter indicates current state of the configuration file operation. See Clause [77.3.5](#) of 3GPP TS 32.612.

- *status*

It contains the results of this action. Possible values: noError (0), error (the value indicates the reason of the error).”;

5.1.10 getSessionLog (M)

getSessionLog **ACTION**
BEHAVIOUR
 getSessionLogBehaviour;
MODE
 CONFIRMED;
WITH INFORMATION SYNTAX
 TS32-614TypeModule.GetSessionLog;
WITH REPLY SYNTAX
 TS32-614TypeModule.CommonReply;
REGISTERED AS {ts32-614Action 10};

getSessionLogBehaviour **BEHAVIOUR**

DEFINED AS

“A Manager invokes this operation to request an Agent to provide a log of the results from activities associated with bulk data configuration file sessionId operations.

The 'Action information' contains the following data:

- *sessionId*

This mandatory parameter identifies this specific session and process associated with an earlier bulk data operation e.g. upload or download for which the current log is required.

- *logFileReference*

This mandatory parameter specifies the address and file name where the result is to be placed in the Manager.

- *contentType*

This mandatory parameter identifies if retrieved file should include (1) complete log including errors, (2) only errors.

The 'Action response' is composed of the following data:

- *status*

It contains the results of this action. Possible values: noError (0), error (the value indicates the reason of the error).”;

5.1.11 getBulkCmIRPVersion (M)

getBulkCmIRPVersion **ACTION**

BEHAVIOUR

getBulkCmIRPVersionBehaviour;

MODE

CONFIRMED;

WITH REPLY SYNTAX

TS32-614TypeModule.GetBulkCmIRPVersionReply;

REGISTERED AS {ts32-614Action 11};

getBulkCmIRPVersionBehaviour **BEHAVIOUR**

DEFINED AS

“A Manager invokes this operation when it wishes to find out the Bulk CM IRP SS versions supported by an Agent. The Agent shall respond with a list of supported Bulk CM IRP SS versions.

- *sessionIdList*

This mandatory parameter is a list of all the sessionID an Agent currently has open i.e. started with startSession and not ended with endSession operations.

- *status*

It contains the results of this action. Possible values: noError (0), error (the value indicates the reason of the error).”;

5.1.12 validate (M)

validate ACTION

BEHAVIOUR

validateBehaviour;

MODE

CONFIRMED;

WITH INFORMATION SYNTAX

TS32-614TypeModule.Validate;

WITH REPLY SYNTAX

TS32-614TypeModule.CommonReply;

REGISTERED AS {ts32-614Action 12};

validateBehaviour **BEHAVIOUR**

DEFINED AS

“An IRPManager invokes this operation to request an IRPAgent to validate previously downloaded bulk configuration data. Use of this optional operation enables an IRPManager to detect errors with regard to the previously downloaded bulk configuration data before requesting preactivation or activation.

- *sessionId*

Identifies this specific session and process associated with the requested bulk data download.

- *activationMode*

Identifies whether a specific activation mode is required.

- *status*

indicates (a) start of operation is successful or (b) operation failed because of specified or unspecified reasons.”;

5.1.13 preactivate (M)

preactivate ACTION

BEHAVIOUR

preactivateBehaviour;

MODE

CONFIRMED;

WITH INFORMATION SYNTAX

TS32-614TypeModule.Preactivate;

WITH REPLY SYNTAX

TS32-614TypeModule.CommonReply;

REGISTERED AS {ts32-614Action 13};

preactivateBehaviour BEHAVIOUR

DEFINED AS

“An IRPManager invokes this operation to request an IRPAgent to preactivate previously downloaded bulk configuration data that may have optionally been validated. The principal functions of the preactivate operation is to validate the configuration data changes in the context of current operational data and to pre-process the configuration data changes. Use of this operation enables the IRPManager to prepare the activation of the downloaded bulk configuration data at the EM or NE level before requesting its effective activation. The actions shall fall short of executing the bulk configuration data changes in the network and impacting service. (The actions may for example be to validate the configuration data changes in the context of current operational data or to pre-process the configuration data changes). Performing such actions prior to activate may help identify any potential problems prior to executing the changes on a live a network and may minimise activation elapse time.

- *sessionId*

Identifies this specific session and process associated with an earlier bulk data download that is required to be activated.

- *verificationMode*

Selects the mode of checking (full or limited).

- *activationMode*

Identifies which specific activation mode is required: leastServiceImpact or leastElapseTime

- *saveFallback*

Indicates whether or not it is required to initialise and enable fallback option prior to the preactivation. This option is only open for the first preactivate operation of a session. For any subsequent preactivate operation retries within a session the fallbackEnabled parameter must be set to indicate it is not required to initialise fallback otherwise the pre-activate operation retry shall fail

- [*status*](#)

[Indicates \(a\) start of operation is successful or \(b\) operation failed because of specified or unspecified reasons.”;](#)

5.2 Notifications

5.2.1 sessionStateChanged (M)

sessionStateChanged **NOTIFICATION**

BEHAVIOUR

sessionStateChangedBehaviour;

WITH INFORMATION SYNTAX

TS32-614TypeModule.SessionStateChangedInfo

AND ATTRIBUTE IDS

notificationIdentifier "Recommendation X.721 1992E" : notificationIdentifier,
 sessionId sessionId,
 sourceIndicator "Recommendation X.721 1992E" : sourceIndicator,
 sessionState sessionState;

REGISTERED AS {ts32-614Notification 1};

sessionStateChangedBehaviour **BEHAVIOUR**

DEFINED AS

“An Agent notifies a Manager that a state change has occurred on a bulk data configuration file sessionID operation subscribed to by the IRPManager.

The 'Event Information' field contains the following data:

- *notificationIdentifier*

This ITU-T X.721 standardised parameter, together with MOI (Managed Object Instance), unambiguously identifies this notification.

- *sessionId*

This mandatory parameter identifies this specific session and process associated with an earlier bulk data operation e.g. upload or download for which the current status is required.

- *sourceIndicator*

This optional when present, indicates the source of the operation that led to the generation of this notification. It can have one of the following values:

- 1 resource operation: The notification was generated in response to an internal operation of the resource;
- 2 management operation: The notification was generated in response to a management operation applied across the managed object boundary external to the managed object;
- 3 unknown: It is not possible to determine the source of the operation. parameter identifies this specific session and process associated with an earlier bulk data operation e.g. upload or download for which the current status is required.

- *sessionState*

This mandatory parameter indicates state transition that caused the Notification. See Subclause [87.21](#) of 3GPP TS 32.612.”;

5.2.2 getSessionLogEnded (M)

getSessionLogEnded **NOTIFICATION**

BEHAVIOUR

getSessionLogEndedBehaviour;

WITH INFORMATION SYNTAX

TS32-614TypeModule.GetSessionLogEndedInfo

AND ATTRIBUTE IDS

```
notificationIdentifier  "Recommendation X.721 1992E" : notificationIdentifier,
sessionId               sessionId,
sourceIndicator         "Recommendation X.721 1992E" : sourceIndicator,
sessionState           sessionState;
```

REGISTERED AS {ts32-614Notification 2};[getSessionLogEnded](#)~~sessionStateChanged~~Behaviour **BEHAVIOUR****DEFINED AS**

" An Agent notifies a Manager that a requested GetSessionLog for a bulk data configuration file sessionId operation subscribed to by the Manager has ended successfully or unsuccessfully.

The 'Event Information' field contains the following data:

- *notificationIdentifier*

This ITU-T X.721 standardised parameter, together with MOI (Managed Object Instance), unambiguously identifies this notification.

- *sessionId*

This mandatory parameter identifies this specific session and process associated with an earlier bulk data operation e.g. upload or download for which the current status is required.

- *sourceIndicator*

This optional when present, indicates the source of the operation that led to the generation of this notification. It can have one of the following values:

- 1 resource operation: The notification was generated in response to an internal operation of the resource;
- 2 management operation: The notification was generated in response to a management operation applied across the managed object boundary external to the managed object;
- 3 unknown: It is not possible to determine the source of the operation. parameter identifies this specific session and process associated with an earlier bulk data operation e.g. upload or download for which the current status is required.

- *sessionLogStatus*

This mandatory parameter indicates event that caused the Notification i.e. Get log completed, Get Log Failed.";

5.3 Attributes

5.3.1 sessionId

sessionId ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-614TypeModule.SessionId;

MATCHES FOR EQUALITY;

BEHAVIOUR

sessionIdBehaviour [BEHAVIOUR DEFINED AS](#)[" This attribute identifies a specific session.";](#)**REGISTERED AS** {ts32-614Attribute 1};~~sessionIdBehaviour~~ **BEHAVIOUR**

~~—DEFINED AS~~

~~— "This attribute identifies a specific session."~~

5.3.2 sessionState

sessionState ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-614TypeModule.SessionState;
MATCHES FOR EQUALITY;
BEHAVIOUR

sessionStateBehaviour [BEHAVIOUR DEFINED AS](#)

["This attribute indicates the current state of the configuration data file operation. See Subclause 7.3.5 of 3GPP TS 32.612.";](#)

REGISTERED AS {ts32-614Attribute 2};

~~sessionStateBehaviour BEHAVIOUR~~

~~—DEFINED AS~~

~~— "This attribute indicates state transition. See Subclause 7.2 of 3GPP TS 32.612."~~

5.3.3 sessionLogStatus

sessionLogStatus ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-614TypeModule.SessionLogStatus;
MATCHES FOR EQUALITY;
BEHAVIOUR

~~s~~SessionLogStatusBehaviour [BEHAVIOUR DEFINED AS](#)

["This attribute indicates event that caused a getSessionLogEnded Notification, i.e. Get log completed, Get Log Failed.";](#)

REGISTERED AS {ts32-614Attribute 3};

~~sessionLogStatusBehaviour BEHAVIOUR~~

~~—DEFINED AS~~

~~— "This attribute indicates event that caused a getSessionLogEnded Notification, i.e. Get log completed, Get Log Failed."~~

6 ASN.1 definitions

```

TS32-614TypeModule { ccitt (0) identified-organization (4) etsi (0)
    mobileDomain (0) umts-Operation-Maintenance (3) ts-32-614 (614)
    informationModel (0) asn1Module (2) version2+ (2+) }

DEFINITIONS IMPLICIT TAGS ::=
BEGIN

--EXPORTS everything
IMPORTS
NotificationIdentifier, SourceIndicator
FROM Attribute-ASN1Module { joint-iso-ccitt ms(9) smi(3) part2(2) asn1Module(2) 1 }
CMISFilter, ObjectInstance, Scope
FROM CMIP-1 { joint-iso-ccitt ms(9) cmip(1) modules(0) protocol(3)};

-- 3GPP TS 32.614 related Object Identifiers

baseNodeUMTS OBJECT IDENTIFIER ::= { itu-t(0) identified-organization(4) etsi(0) mobileDomain(0)
    umts-Operation-Maintenance(3) }
ts32-614 OBJECT IDENTIFIER ::= { baseNodeUMTS ts32-614(614) }
ts32-614InfoModel OBJECT IDENTIFIER ::= { ts32-614 informationModel(0) }

ts32-614ObjectClass OBJECT IDENTIFIER ::= { ts32-614InfoModel managedObjectClass(3) }
ts32-614Package OBJECT IDENTIFIER ::= { ts32-614InfoModel package(4) }
ts32-614Parameter OBJECT IDENTIFIER ::= { ts32-614InfoModel parameter(5) }
ts32-614NameBinding OBJECT IDENTIFIER ::= { ts32-614InfoModel nameBinding(6) }
ts32-614Attribute OBJECT IDENTIFIER ::= { ts32-614InfoModel attribute(7) }
ts32-614Action OBJECT IDENTIFIER ::= { ts32-614InfoModel action (9) }
ts32-614Notification OBJECT IDENTIFIER ::= { ts32-614InfoModel notification (10) }

-- Start of 3GPP SA5 own definitions

ErrorCauses ::= ENUMERATED
{
    noError (0), -- operation / notification successfully performed
    wrongSessionId (1), -- the value of the parameter SessionId is not known for the Agent
    unspecifiedErrorReason (255) -- operation failed, specific error unknown
}

SaveFallback ::= ENUMERATED
{
    enable (0), -- enable the fallback option
    disable (1) -- disable the fallback option
}

SessionId ::= GraphicString

Version ::= GraphicString

SessionState ::= ENUMERATED
{
    idle(0),
    uploadInProgress _____(1),
    uploadCompleted _____(2),
    uploadFailed _____(3),

```

```

downloadInProgress _____(4),
downloadCompleted _____(5),
downloadFailed _____(6),
activationInProgress _____(7),
activationCompleted _____(8),
activationFailed _____(9),
activationPartlyRealised _____(10),
fallbackInProgress _____(11),
fallbackCompleted _____(12),
fallbackFailed _____(13),
fallbackPartlyRealised _____(14),
validationInProgress _____(15),
validationFailed _____(16),
validationCompleted _____(17),
preactivationInProgress _____(18),
preactivationFailed _____(19),
preactivationPartlyRealised _____(20),
preactivationCompleted _____(21)
}

```

SessionLogStatus ::= ENUMERATED

```

{
getLogFailed (0),
getLogCompleted (1)
}

```

ContentType ::= ENUMERATED

```

{
completeLog (0), -- complete log including errors
errorLog (1) -- only error log
}

```

FileReference ::= GraphicString

ActivationMode ::= ENUMERATED

```

{
notSupported (0), -- the optional parameter is not supported
leastServiceImpact (1), -- the IRPAgent shall optimise the execution of the activation in a way that
minimises disruption to network services. Elapse time to complete the
activation is of secondary importance
leastElapseTime (2) -- the IRPAgent shall optimise the execution of the activation in a way that
minimises the elapse time for completing the execution of the activation.
During the execution, disruption of network services is of secondary
importance
}

```

VerificationMode ::= ENUMERATED

```

{
notSupported (0), -- the optional parameter is not supported
fullChecking (1), -- the checking should be as complete as possible with the intent of achieving
the greatest assurance that the subsequent activation operation will be
successful
limitedChecking (2) -- checking that can be performed by the IRPAgent rapidly is still performed,
but further checking that may cause significant delays to execute should be
omitted
}

```

Common ::= SEQUENCE

```

{
sessionId SessionId
}

```

```

CommonReply ::= SEQUENCE
{
    status          ErrorCauses
}
    
```

```

Download ::= SEQUENCE
{
    sessionId          SessionId,
    downloadDataFileReference FileReference
}
    
```

```

Upload ::= SEQUENCE
{
    sessionId          SessionId,
    uploadDataFileReference FileReference,
    baseObjectInstance ObjectInstance, -- ITU-T X.711
    scope             Scope, -- ITU-T X.711
    filter            CMISFilter -- ITU-T X.711
}
    
```

```

Validate ::= SEQUENCE
{
    sessionId          SessionId,
    activationMode     ActivationMode
}
    
```

```

Preactivate ::= SEQUENCE
{
    sessionId          SessionId,
    verificationMode  VerificationMode,
    activationMode     ActivationMode,
    saveFallback       SaveFallback
}
    
```

```

Activate ::= SEQUENCE
{
    sessionId          SessionId,
    saveFallback       SaveFallback,
    activationMode     ActivationMode status ErrorCauses
}
    
```

```

GetSessionIdsReply ::= SEQUENCE
{
    sessionIdList      SEQUENCE OF sessionId SessionId,
    status             ErrorCauses
}
    
```

```

GetSessionStatusReply ::= SEQUENCE
{
    sessionState       SessionState,
    status             ErrorCauses
}
    
```

```

GetSessionLog ::= SEQUENCE
{
    sessionId          SessionId,
    logFileReference  FileReference,
    contentType       ContentType,
    status             ErrorCauses
}
    
```

GetBulkCmIRPVersionReply ::= SEQUENCE

```
{
  versionList      SEQUENCE OF {vVersion GraphicString},
  status           ErrorCauses
}
```

SessionStateChangedInfo ::= SEQUENCE

```
{
  notificationIdentifier  NotificationIdentifier OPTIONAL, --ITU-T X.721
  sessionId               SessionId,
  sourceIndicator         SourceIndicator, -- ITU-T X.721
  sessionState            SessionState
}
```

GetSessionLogEndedInfo ::= SEQUENCE

```
{
  notificationIdentifier  NotificationIdentifier OPTIONAL, --ITU-T X.721
  sessionId               SessionId,
  sourceIndicator         SourceIndicator, -- ITU-T X.721
  sessionLogStatus        SessionLogStatus
}
```

END -- of module TS32-614TypeModule

Annex A (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Sep 2001	S_13	SP-010478	001	--	Correction due to TS renumbering	4.0.0	4.1.0
Jun 2002	S_16	SP-020296	002	--	Correction of behaviour for IS parameter "saveFallback" of IS operation "activate"	4.1.0	4.2.0
Nov 2002					Add Bulk CM IRP CMIP Solution Set Enhancements Rel-5 (add activationMode to action activate, new actions preactivate and validate)	4.2.0	5.0.0