3GPP TSG-CN Meeting #24 02 – 04 June 2004, Seoul, KOREA

Source: CN5 (OSA)

Title: 4 Rel-5 CRs 29.198-01 OSA API Part 1: Overview

Agenda item: 8.2 (OSA Enhancements [OSA2])

Document for: APPROVAL

Doc-1st-	Spec	CR	Rev	Phase	Subject		Version	Doc-2nd-	Workite
NP-040260	29.198-01	029	-	Rel-5	Correct Java Rulebook to support API design pattern introduced by PAM SCS	F	5.5.0	N5-040045	OSA2
NP-040260	29.198-01	031	-	Rel-6	Correct Java Rulebook to support API design pattern introduced by PAM SCS	Α	6.0.1	N5-040119	OSA2
NP-040260	29.198-01	032	-	Rel-5	Correct Java Rulebook to conform to Java accepted standards	F	5.5.0	N5-040345	OSA2
NP-040260	29.198-01	033	-	Rel-6	Correct Java Rulebook to conform to Java accepted standards	Α	6.0.1	N5-040346	OSA2

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Other comments:

Meeting #26, Atlanta, GA, USA, 16-20 February 2004 CR-Form-v7 CHANGE REQUEST \mathfrak{R} 29.198-01 CR 029 Current version: **#rev** For **HELP** on using this form, see bottom of this page or look at the pop-up text over the \mathbb{H} symbols. ME Radio Access Network Proposed change affects: Core Network X Title: ☆ Correct Java Rulebook to support API design pattern introduced by PAM SCS Source: CN5 AePONA - Eamonn Murray Work item code: SA2 Date: 第 06/02/2004 ₩ F Release: REL-5 Category: Use one of the following categories: Use one of the following releases: (GSM Phase 2) F (correction) 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 (Release 4) Rel-4 be found in 3GPP TR 21.900. Rel-5 (Release 5) Rel-6 (Release 6) Reason for change: ₩ The PAM SCS introduced in Release 5 introduces an API pattern not evident in other SCSs. The SCS may invoke methods on the application in which the application may return a type to the SCS. The Java rulebook requires modification in order to accommodate this API behaviour. Summary of change: ₩ Correct the callback rule in the Java rulebook Consequences if Existing J2SE rulebook cannot be used to support Java realisation of PAM not approved: Clauses affected: C 4.9 \mathfrak{R} Other specs \mathfrak{R} X Other core specifications \mathfrak{R} Test specifications affected: **O&M Specifications**

```
******* Start of Change # 1 *************
```

C 4.9 Callback Rule

The UML callback design pattern for <u>all callbacks that return a type non-client to-service interfaces (Parlay interface numbers 1, 3, 4, 5 and 6 [Fig 1])</u> is represented in Java with the callback design pattern. The UML callback design pattern for <u>all callbacks that return void client to-service interfaces (Parlay interface number 2 [Fig 1])</u> is represented in Java with the event listener design pattern.

The UML client-to-service interfaces (Parlay interface number 2) with the IpAppXxxx naming convention are represented in Java with the XxxxListener naming convention.

The IpService.setCallback method can be deleted; the interfaces that inherited the setCallback method now have associated addXxxxListener and removeXxxxListener methods. According to the *TpSessionID* mapping, IpService.setCallbackWithSessionID() method is deleted.

The XxxxListener listener interfaces will extend java.util.EventListener. The asynchronous methods of previously named IpAppXxxx, typically labelled yyyyYyyyRes and yyyyYyyygErr but also yyyyYyyy, will be renamed onYyyyYyyyRes and onYyyyYyyyErr but also onYyyyYyyy. Each method will have an event parameter, typically labelled YyyyYyyyResEvent and YyyyYyyyErrEvent, but also YyyyYyyyEvent. Events will be classes that extend java.util.EventObject and contain a private constructor (with multiple parameters – one per class carried by the event) and a number of public getter methods (one per "gettable" class carried by the event). Events are read-only and serializable.

Example 26:

Listener Interface:

```
package org.csapi.jr.se.cc.mpccs;

MultiPartyCallListener extends java.util.EventListener{

public void onGetInfoResEvent(GetInfoResEvent event)
public void onGetInfoErrEvent(GetInfoErrEvent event)
public void onSuperviseResEvent(SuperviseResEvent event)
public void onSuperviseErrEvent(SuperviseErrEvent event)
public void onCallEndedEvent(CallEndedEvent event)
public void onCreateAndRouteCallLegErrEvent(CreateAndRouteCallLegErrEvent event)
}
```

MuliPartyCall Interface additional methods:

Other comments:

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Title:	€ Co	rrect Ja	ava Ru	lebook to	o supp	ort API	desig	n pat	ttern in	troduc	ed by	PAM S	CS
Source:	€ CN	5 AeP	– ANC	Eamonr	n Murr	ay							
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Clauses affected:	¥	C 4.9)										
Other specs	æ	Y N	Other	core sp		itions	æ						
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******* Start of Change # 1 ************

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public void onSuperviseErrEvent(SuperviseErrEvent event)
public void onCallEndedEvent(CallEndedEvent event)
public void onCreateAndRouteCallLegErrEvent(CreateAndRouteCallLegErrEvent event)
}
```

MuliPartyCall Interface additional methods:

Annex E (informative): Change history

	Change history									
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New			
Mar 2001	CN_11	NP-010134	047		CR 29.198: for moving TS 29.198 from R99 to Rel-4 (N5-010158)	3.2.0	4.0.0			
Jun 2001 CN_12		NP-010330	001		Corrections to OSA API Rel4 (Correction to IDL namespace to align	4.0.0	4.1.0			
					with that of ETSI and Parlay equivalent APIs: Change					
					org.open_service_access root namespace to org.csapi) (N5-010267)					
Sep 2001		NP-010464	002		Changing references to JAIN	4.1.0	4.2.0			
Dec 2001		NP-010594	003		Replace Out Parameters with Return Types	4.2.0	4.3.0			
Dec 2001	CN_14	NP-010594	004		Remove the perception that the OSA API only uses CORBA for its	4.2.0	4.3.0			
					transport mechanism					
Mar 2002					Editorial update (no CR) following Hong Kong CN5#16	4.3.0	4.3.1			
Jun 2002		NP-020181	005		Addition of support for Java API technology realisation	4.3.1	5.0.0			
Jun 2002		NP-020182			Addition of support for WSDL realisation	4.3.1	5.0.0			
Jun 2002	_	NP-020184	007		Adding the full naming convention for exceptions	4.3.1	5.0.0			
Jun 2002		NP-020184	800		Correction of References in OSA specifications	4.3.1	5.0.0			
Jun 2002	CN_16	NP-020184	009		Addition of text describing the technology realisations of the Parlay/OSA specification	4.3.1	5.0.0			
Sep 2002	CN_17	NP-020427	010	1	Addition to ObjectRef description in WSDL Mapping Rules	5.0.0	5.1.0			
Sep 2002	CN_17	NP-020427	011		Addition of sequence tag to Choice types	5.0.0	5.1.0			
Sep 2002	CN_17	NP-020427	012		Replace all occurrences of the xsd:anyURI type to xsd:string	5.0.0	5.1.0			
Sep 2002	CN_17	NP-020427	013	1	Correction to Namespace mapping in WSDL Mapping Rules	5.0.0	5.1.0			
Sep 2002	CN_17	NP-020427	014		Correction to xmlns:wsdl Namespace	5.0.0	5.1.0			
Sep 2002	CN_17	NP-020427	015		Prepend class name to <message> name.</message>	5.0.0	5.1.0			
Sep 2002	CN_17	NP-020427	016		Correction to void return types in WSDL Mapping Rules	5.0.0	5.1.0			
Sep 2002	CN_17	NP-020427	017	1	Add missing CORBA realization rules in Part 1	5.0.0	5.1.0			
Sep 2002	CN_17	NP-020427	018		Add general introduction to the OSA APIs in Part 1	5.0.0	5.1.0			
Sep 2002	CN_17	NP-020395	020		Add text to clarify relationship between 3GPP and ETSI/Parlay OSA specifications	5.0.0	5.1.0			
Mar 2003	CN_19				Editorial update (no CR) following Bangkok CN5#22 (Introduction, Reference Titles)	5.1.0	5.1.1			
Jun 2003	CN 20	NP-030298	022	1	Removal of un-used references	5.1.1	5.2.0			
Jun 2003		NP-030239	023		Correction to Java Realisation Annex	5.1.1	5.2.0			
Sep 2003	CN_21	NP-030352	024		Correction to Java Realisation Annex	5.2.0	5.3.0			
Dec 2003		NP-030547	025		Add Java Realization rules to solve MPCC name conflicts	5.3.0	5.4.0			
Dec 2003	CN_22		026		Correction to Java Realisation Rulebook	5.3.0	5.4.0			
Dec 2003	CN 22		027		Add OSA API support for 3GPP2 networks	5.4.0	6.0.0			
Feb 2004					Added Java code attachment 2919801J2EE.zip which was delivered	6.0.0	6.0.1			
					late by outside developers. See Annex C; clause C 1.3 Javadoc		1			
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Meeting #27, Miami, FL, USA, 10-14 May 2004 CR-Form-v7 CHANGE REQUEST \mathfrak{R} 29,198-01 CR 032 Current version: **#rev** For **HELP** on using this form, see bottom of this page or look at the pop-up text over the \mathbb{H} symbols. ME Radio Access Network Proposed change affects: Core Network X Title: Correct Java Rulebook to conform to Java accepted standards Source: CN5 John-Luc Bakker Work item code: SA2 Date: 第 19/05/2004 ₩ F Release: # REL-5 Category: Use one of the following releases: Use one of the following categories: (GSM Phase 2) F (correction) 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 (Release 4) Rel-4 be found in 3GPP TR 21.900. Rel-5 (Release 5) Rel-6 (Release 6) Reason for change: # Java code, and a rulebook for developing it, were introduced into the OSA specifications in September 2003. The Java production process is not required to take into account evolution of the Java source. To allow for Java API evolution; Java supports the deprecated tag. Summary of change: ₩ This document introduces required use of the deprecated tag when applying the production process. The deprecated tag enforces backward compatibility. Different versions of the Java source can evolve without carry-over of the Consequences if not approved: previous code. This situation will discourage companies from developing implementations which use the Java code part of the OSA specifications. Annex C.3.6.8 Clauses affected: \mathfrak{R} Ν \mathfrak{R} X Other core specifications Other specs \mathfrak{R} affected: Test specifications

O&M Specifications

Other comments:

Mirror CR to this CR exist for Rel-6 in N5-040346

C.3.6.8 Deprecation

Java source can evolve between one version and the next. Three causes of evolution are identified:

- o Through applying changes to the UML
- o Through applying changes to the rulebook
- Through improving the Java production process

In order to maintain backward compatibility, the Java community applies the /** @deprecated */ tag. Java source shall maintain backward compatibility. Changes between subsequent versions shall be indicated through applying the deprecated tag.

Deprecated Java source remains deprecated for as long as UML deprecation history is remained.

Annex D (informative): Change history

Change history										
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New			
Mar 2001	CN_11	NP-010134	047		CR 29.198: for moving TS 29.198 from R99 to Rel-4 (N5-010158)	3.2.0	4.0.0			
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					with that of ETSI and Parlay equivalent APIs: Change					
					org.open_service_access root namespace to org.csapi) (N5-010267)					
Sep 2001	CN_13	NP-010464	002		Changing references to JAIN	4.1.0	4.2.0			
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Dec 2001	CN_14	NP-010594	004		Remove the perception that the OSA API only uses CORBA for its transport mechanism	4.2.0	4.3.0			
Mar 2002					Editorial update (no CR) following Hong Kong CN5#16	4.3.0	4.3.1			
Jun 2002	CN_16	NP-020181	005		Addition of support for Java API technology realisation	4.3.1	5.0.0			
Jun 2002	CN_16	NP-020182	006		Addition of support for WSDL realisation	4.3.1	5.0.0			
Jun 2002	CN_16	NP-020184	007		Adding the full naming convention for exceptions	4.3.1	5.0.0			
Jun 2002	CN 16	NP-020184	800		Correction of References in OSA specifications	4.3.1	5.0.0			
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Sep 2002	CN 17	NP-020427	011		Addition of sequence tag to Choice types	5.0.0	5.1.0			
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Sep 2002	CN 17	NP-020427	013		Correction to Namespace mapping in WSDL Mapping Rules	5.0.0	5.1.0			
Sep 2002	CN_17	NP-020427	014		Correction to xmlns:wsdl Namespace	5.0.0	5.1.0			
Sep 2002	CN_17	NP-020427	015		Prepend class name to <message> name.</message>	5.0.0	5.1.0			
Sep 2002	CN 17	NP-020427	016		Correction to void return types in WSDL Mapping Rules	5.0.0	5.1.0			
Sep 2002	CN_17	NP-020427	017		Add missing CORBA realization rules in Part 1	5.0.0	5.1.0			
Sep 2002	CN 17	NP-020427	018		Add general introduction to the OSA APIs in Part 1	5.0.0	5.1.0			
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Jun 2003	CN_20	NP-030239	023		Correction to Java Realisation Annex	5.1.1	5.2.0			
Sep 2003	CN_21	NP-030352	024		Correction to Java Realisation Annex	5.2.0	5.3.0			
Dec 2003	CN_22	NP-030547	025		Add Java Realization rules to solve MPCC name conflicts	5.3.0	5.4.0			
Dec 2003	CN_22	NP-030547	026		Correction to Java Realisation Rulebook	5.3.0	5.4.0			
Apr 2004	CN_23bis	NP-040154	028		Correct Java Code to conform with Java Rulebook in TS 29.198-01 and to remove errors	5.4.0	5.5.0			

Meeting #27, Miami,	, FL, USA,	10-14 May 2	2004				
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Title:	rrect Java Ru	<mark>ılebook to conf</mark>	orm to Java	accepte	ed standards	S	
Source: 第 CN	15 John-Luc E	Bakker					
Work item code:	SA2				Date: ℁	19/05/2004	
Deta	F (correction) A (corresponding addition of the control of the con	ds to a correction feature), modification of foodification) ons of the above TR 21.900.	n in an earlier eature) categories ca k for develo	<i>r release)</i> an	2 R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	REL-6 the following rele (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 6)	
Summary of change: 発	The Java p Java sourc This docum	e. To allow for	ess is not re Java API e required us	volution se of the	; Java suppo deprecated	account evolution orts the depreca tag when appl ard compatibilit	ated tag. ying the
Consequences if # not approved:	previous co	de. This situa	tion will disc	courage	companies t	carry-over of the from developing A specifications	g
Clauses affected: #	Annex C.3.	6.8					
Other specs # affected:	Y N Othe X Test	r core specifica specifications Specifications		8			

This is a Rel-6 mirror to the CR in N5-040345

Other comments:

C.3.6.8 Deprecation

Java source can evolve between one version and the next. Three causes of evolution are identified:

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In order to maintain backward compatibility, the Java community applies the /** @deprecated */ tag. Java source shall maintain backward compatibility. Changes between subsequent versions shall be indicated through applying the deprecated tag.

Deprecated Java source remains deprecated for as long as UML deprecation history is remained.

Annex E (informative): Change history

Change history										
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Mar 2001	CN_11	NP-010134	047		CR 29.198: for moving TS 29.198 from R99 to Rel-4 (N5-010158)	3.2.0	4.0.0			
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Mar 2003	CN_19				Editorial update (no CR) following Bangkok CN5#22 (Introduction, Reference Titles)	5.1.0	5.1.1			
Jun 2003	CN_20	NP-030298	022	1	Removal of un-used references	5.1.1	5.2.0			
Jun 2003	CN_20	NP-030239	023		Correction to Java Realisation Annex	5.1.1	5.2.0			
Sep 2003	CN 21	NP-030352	024		Correction to Java Realisation Annex	5.2.0	5.3.0			
Dec 2003		NP-030547	025		Add Java Realization rules to solve MPCC name conflicts	5.3.0	5.4.0			
Dec 2003		NP-030547	026		Correction to Java Realisation Rulebook	5.3.0	5.4.0			
Dec 2003	CN_22		027		Add OSA API support for 3GPP2 networks	5.4.0	6.0.0			
Feb 2004					Added Java code attachment 2919801J2EE.zip which was delivered late by outside developers. See Annex C; clause C 1.3 Javadoc	6.0.0	6.0.1			
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