

**3GPP TSG CN Plenary Meeting #19
12- 14 March 2003, Birmingham, UK**

NP-030023

Source: CN5 (OSA)
Title: Rel-4 CR 29.198-07 OSA API Part 7: Terminal Capabilities
Agenda item: 7.10
Document for: APPROVAL

Doc-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
NP-030023	29.198-07	009	-	Rel-4	Correction to Class Package – Unable to use service	F	4.4.0	N5-021091	OSA1
NP-030023	29.198-07	010	-	Rel-4	Correction of status of methods to Terminal Capabilities interfaces	F	4.4.0	N5-021016	OSA1
NP-030023	29.198-07	011	-	Rel-5	Addition of status of methods to Terminal Capabilities interfaces	A	5.2.0	N5-021136	OSA2
NP-030023	29.198-07	012	-	Rel-4	Correction to TpTerminalCapabilities in Terminal Capabilities	F	4.4.0	N5-021123	OSA1
NP-030023	29.198-07	013	-	Rel-5	Correction to TpTerminalCapabilities in Terminal Capabilities	A	5.2.0	N5-021124	OSA2

CHANGE REQUEST

⌘ **29.198-07 CR 009** ⌘ rev **-** ⌘ Current version: **4.4.0** ⌘

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 to Class Package – Unable to use service		
Source:	⌘ N5		
Work item code:	⌘ OSA1	Date:	⌘ 31/10/2002
Category:	⌘ F	Release:	⌘ REL-4
	Use <u>one</u> 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 <u>one</u> 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 terminal capabilities class package and IDL does not extend the IpService class and therefore it is not possible to carry out signServiceAgreement and use the service as currently defined
Summary of change:	⌘ Correct the class diagram and Interface definition
Consequences if not approved:	⌘ Terminal Capabilities cannot be support with Release 4 API

Clauses affected:	⌘ 6, 8.1										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> </tr> <tr> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> </tr> <tr> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> </tr> </table>	Y	N	✓	✓	✓	✓	✓	✓	Other core specifications Test specifications O&M Specifications	⌘
Y	N										
✓	✓										
✓	✓										
✓	✓										
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.
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- 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.

***** Change #1: Class Diagram *****

6 Class Diagrams

Terminal Capabilities Class Diagram:

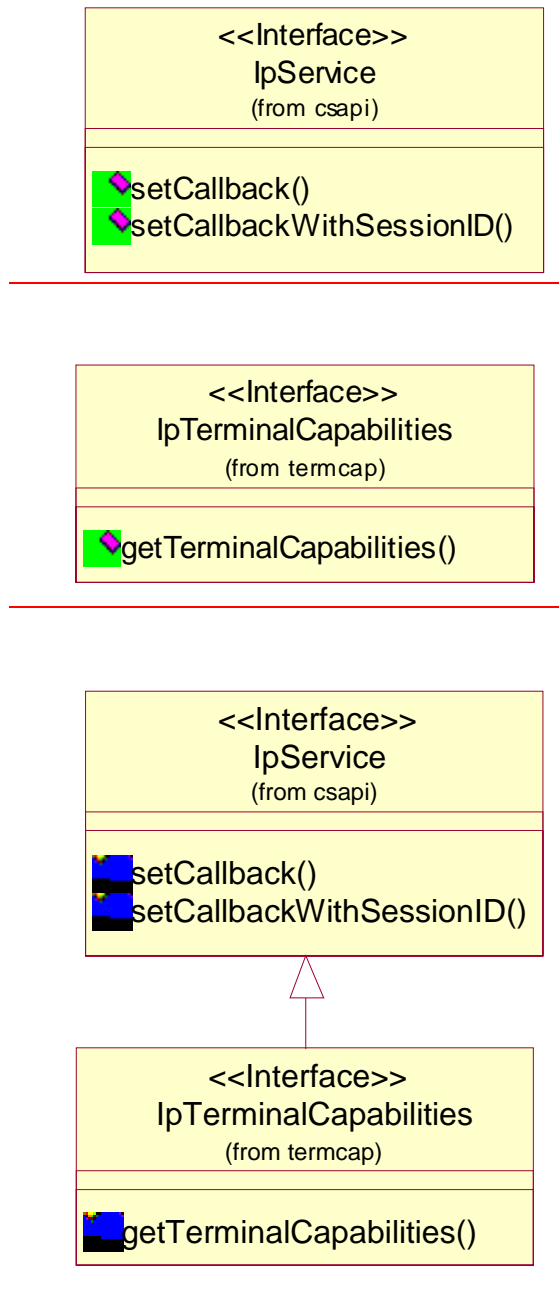


Figure: Package Overview

***** End of Change #1: Class Diagram *****

***** **Change #2: Interface Definition** *****

8.1 Interface Class IpTerminalCapabilities

Inherits from: ~~IpInterface~~-IpService

The Terminal Capabilities SCF interface IpTerminalCapabilities contains the synchronous method getTerminalCapabilities. The application has to provide the terminalIdentity as input to this method. The result indicates whether or not the terminal capabilities are available in the network and, in case they are, it will return the terminal capabilities (see the data definition of TpTerminalCapabilities for more information).

<<Interface>> IpTerminalCapabilities
getTerminalCapabilities (terminalIdentity : in TpString) : TpTerminalCapabilities

***** **End of Change #2: Interface Definition** *****

CHANGE REQUEST

⌘ **29.198-07 CR 013** ⌘ rev **-** ⌘ Current version: **5.2.0** ⌘

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 to TpTerminalCapabilities in Terminal Capabilities		
Source:	⌘ N5		
Work item code:	⌘ OSA2	Date:	⌘ 31/10/2002
Category:	⌘ A	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:	⌘ The text description of TpTerminalCapabilities in TS 29.198-07 contains an error: The order of the two elements in this sequence is swapped compared with the definition in the IDL file. The WSDL also has the incorrect order.
Summary of change:	⌘ Change Word document and WSDL to match correct IDL description of TpTerminalCapabilities
Consequences if not approved:	⌘ A contradiction will exist between the IDL and the Word document. If no alignment is made, some developers will chose one version of the type, others the other, and interworking problems will arise.

Clauses affected:	⌘ 11.2, Annex B										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table>	Y	N		X		X		X	Other core specifications	⌘
Y	N										
	X										
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘										

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- 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.

11.2 TpTerminalCapabilities

This data type is a Sequence of Data Elements that describes the terminal capabilities. It is a structured type that consists of:

Sequence Element Name	Sequence Element Type	Documentation
StatusCode	TpBoolean	Indicates whether or not the TerminalCapabilities are available.
TerminalCapabilities	TpString	Specifies the latest available capabilities of the user's terminal. This information, if available, is returned as CC/PP headers as specified in W3C [4] and adopted in the WAP UAPProf specification [5]. It contains URLs; terminal attributes and values, in RDF format; or a combination of both.
StatusCode	TpBoolean	Indicates whether or not the TerminalCapabilities are available.

←===== MODIFIED SECTION =====→

Annex A (normative): OMG IDL Description of Terminal Capabilities SCF

The OMG IDL representation of this interface specification is contained in a text file (termcap.idl contained in archive 2919807IDL.ZIP) which accompanies the present document.

```
struct TpTerminalCapabilities {
    TpBoolean StatusCode;
    TpString TerminalCapabilities;
};
```

←===== NEXT MODIFIED SECTION =====→

Annex B (informative): W3C WSDL Description of Terminal Capabilities SCF

The W3C WSDL representation of this specification is contained in a text file (termcap.wsdl contained in archive es_20291707WSDL.ZIP) which accompanies the present document.

```
<xsd:complexType name="TpTerminalCapabilities">
  <xsd:sequence>
    <xsd:element name="StatusCode" type="osaxsd:TpBoolean"/>
    <xsd:element name="TerminalCapabilities" type="osaxsd:TpString"/>
    <xsd:element name="StatusCode" type="osaxsd:TpBoolean"/>
  </xsd:sequence>
</xsd:complexType>
```

←===== END MODIFIED SECTION =====→

CHANGE REQUEST

⌘ **29.198-07 CR 012** ⌘ rev **-** ⌘ Current version: **4.4.0** ⌘

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 to TpTerminalCapabilities in Terminal Capabilities		
Source:	⌘ N5		
Work item code:	⌘ OSA1	Date:	⌘ 31/10/2002
Category:	⌘ F	Release:	⌘ REL-4
	Use <u>one</u> 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 <u>one</u> 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 text definition of TpTerminalCapabilities in TS 29.198-07 contains an error: The order of the two elements in this sequence is swapped compared with the definition in the IDL file.
Summary of change:	⌘ Change the Word document to match IDL description of TpTerminalCapabilities
Consequences if not approved:	⌘ A contradiction will exist between the IDL and the Word document. If no alignment is made, some developers will chose one version of the type, others the other, and interworking problems will arise.

Clauses affected:	⌘ 10.2										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘	Y	N	⌘	X	⌘	X	⌘	X		
Y	N										
⌘	X										
⌘	X										
⌘	X										
Other comments:	⌘										

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This data type is a Sequence of Data Elements that describes the terminal capabilities. It is a structured type that consists of:

Sequence Element Name	Sequence Element Type	Documentation
StatusCode	TpBoolean	Indicates whether or not the TerminalCapabilities are available.
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StatusCode	TpBoolean	Indicates whether or not the TerminalCapabilities are available.

←===== MODIFIED SECTION =====→

Annex A (normative): OMG IDL Description of Terminal Capabilities SCF

The OMG IDL representation of this interface specification is contained in a text file (termcap.idl contained in archive 2919807IDL.ZIP) which accompanies the present document.

```
struct TpTerminalCapabilities {
    TpBoolean StatusCode;
    TpString TerminalCapabilities;
};
```

←===== END MODIFIED SECTION =====→

CHANGE REQUEST

⌘ **29.198-07 CR 011** ⌘ rev **-** ⌘ Current version: **5.2.0** ⌘

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:	⌘	Addition of status of methods to Terminal Capabilities interfaces		
Source:	⌘	N5		
Work item code:	⌘	OSA2	Date:	⌘ 31/10/2002
Category:	⌘	A	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:	⌘	There is no requirement in the standard about the necessity to implement all or only some of the methods defined for an interface.		
Summary of change:	⌘	Add a statement that clarifies which methods are mandatory and which are optional.		
Consequences if not approved:	⌘	Application developers will not know which methods will actually be available.		

Clauses affected:	⌘	4, 8										
Other specs affected:	⌘	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table>	Y	N		X		X		X	Other core specifications	⌘
Y	N											
	X											
	X											
	X											
			Test specifications									
			O&M Specifications									
Other comments:	⌘											

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4 Terminal Capabilities SCF

The following clauses describe each aspect of the Terminal Capabilities Service Capability Feature (SCF).

The order is as follows:

- The Sequence diagrams give the reader a practical idea of how each of the SCF is implemented.
- The Class relationships clause show how each of the interfaces applicable to the SCF, relate to one another
- The Interface specification clause describes in detail each of the interfaces shown within the Class diagram part.
- The State Transition Diagrams (STD) show the transition between states in the SCF. The states and transitions are well-defined; either methods specified in the Interface specification or events occurring in the underlying networks cause state transitions.
- The Data definitions section show a detailed expansion of each of the data types associated with the methods within the classes. Note that some data types are used in other methods and classes and are therefore defined within the Common Data types part of this specification.

4.1 General requirements on support of methods

An implementation of this API which supports or implements a method described in the present document, shall support or implement the functionality described for that method, for at least one valid set of values for the parameters of that method.

Where a method is not supported by an implementation of a Service interface, the exception P_METHOD_NOT_SUPPORTED shall be returned to any call of that method.

Where a method is not supported by an implementation of an Application interface, a call to that method shall be possible, and no exception shall be returned.

8 Terminal Capabilities Interface Classes

The Terminal Capabilities SCF enables the application to retrieve the terminal capabilities of the specified terminal. Additionally it is possible for the application to request notifications when the capabilities of the terminal change in some way. The Terminal Capabilities service provides SCF interfaces IpTerminalCapabilities and IpExtendedTerminalCapabilities. The application side interface for the reporting is called IpAppExtendedTerminalCapabilities.

8.1 Interface Class IpTerminalCapabilities

Inherits from: IpService.

The Terminal Capabilities SCF interface IpTerminalCapabilities contains the synchronous method getTerminalCapabilities. The application has to provide the terminalIdentity as input to this method. The result indicates whether or not the terminal capabilities are available in the network and, in case they are, it will return the terminal capabilities (see the data definition of TpTerminalCapabilities for more information). The network may override some capabilities that have been indicated by the terminal itself due to network policies or other restrictions or modifications in the supported capabilities.

[This interface, or IpExtendedTerminalCapabilities shall be implemented by a Terminal Capabilities SCF as a minimum requirement.](#)

[If this interface is implemented, the getTerminalCapabilities\(\) method shall be implemented as a minimum requirement.](#)

<<Interface>> IpTerminalCapabilities
getTerminalCapabilities (terminalIdentity : in TpString) : TpTerminalCapabilities

8.1.1 Method getTerminalCapabilities()

This method is used by an application to get the capabilities of a user's terminal. Direction: Application to Network.

Returns result : Specifies the latest available capabilities of the user's terminal.

This information, if available, is returned as CC/PP headers as specified in W3C [1] and adopted in the WAP UAProf specification [2]. It contains URLs; terminal attributes and values, in RDF format; or a combination of both.

Parameters

terminalIdentity : in TpString

Identifies the terminal. It may be a logical address known by the WAP Gateway/PushProxy.

*Returns***TpTerminalCapabilities***Raises***TpCommonExceptions, P_INVALID_TERMINAL_ID**

8.2 Interface Class IpExtendedTerminalCapabilities

Inherits from: IpTerminalCapabilities.

This interface can be used as an extended version of terminal capability monitoring. The application programmer can use this interface to request terminal capability reports that are triggered by their changes. Note that the underlying mechanisms for this network feature are currently not fully standardised.

[This interface, or IpTerminalCapabilities, shall be implemented by a Terminal Capabilities SCF as a minimum requirement.](#)

[The triggeredTerminalCapabilityStartReq\(\) and triggeredTerminalCapabilityStop\(\) methods shall be implemented as a minimum requirement. An implementation of IpExtendedTerminalCapabilities is not required to implement the minimum mandatory methods of IpTerminalCapabilities.](#)

<<Interface>> IpExtendedTerminalCapabilities
<<new>> triggeredTerminalCapabilityStartReq (appTerminalCapabilities : in IpAppExtendedTerminalCapabilitiesRef, terminals : in TpAddressSet, capabilityScope : in TpTerminalCapabilityScope, criteria : in TpTerminalCapabilityChangeCriteria) : TpAssignmentID <<new>> triggeredTerminalCapabilityStop (assignmentID : in TpAssignmentID) : void

8.2.1 Method <<new>> triggeredTerminalCapabilityStartReq()

Request for terminal capability reports when the capabilities change or when the application obviously does not have the current terminal capability information when this method is invoked.

Returns: assignmentID

Specifies the assignment ID of the triggered terminal capability reporting request.

*Parameters***appTerminalCapabilities : in IpAppExtendedTerminalCapabilitiesRef**

Specifies the application interface for callbacks.

terminals : in TpAddressSet

Specifies the terminal(s) for which the capabilities shall be reported. TpAddress fields have the following use:

- Plan: Used to indicate the numbering plan
- AddrString: Used to indicate the subscriber address

- Name: Used to indicate the terminal identity. May be applied also together with AddrString to indicate subscriber's particular terminal. The precise format is not defined.
- Presentation: No defined use
- Screening: No defined use
- SubAddressString: No defined use

Hence it is possible to indicate the subscriber and/or the terminal identification. This terminal addressing is implementation specific e.g. subscriber identification may not always be sufficient information to get the capabilities of the terminal.

capabilityScope : in TpTerminalCapabilityScope

Specifies the scope of the capabilities that the application is interested in. The contents are implementation specific. One possibility is to use the CC/PP definitions as in TpTerminalCapabilities.

criteria : in TpTerminalCapabilityChangeCriteria

Specifies the trigger conditions for the reports e.g. software or hardware update.

Returns

TpAssignmentID

Raises

**TpCommonExceptions, P_INFORMATION_NOT_AVAILABLE,
P_INVALID_INTERFACE_TYPE, P_INVALID_CRITERIA, P_INVALID_TERMINAL_ID**

8.2.2 Method <<new>> triggeredTerminalCapabilityStop()

Stop reporting for terminal capability changes that were started by triggeredTerminalCapabilityStartReq().

Parameters

assignmentID : in TpAssignmentID

Specifies the assignment ID for the task to be stopped.

Raises

TpCommonExceptions, P_INVALID_ASSIGNMENT_ID

8.3 Interface Class IpAppExtendedTerminalCapabilities

Inherits from: IpInterface.

IpAppExtendedTerminalCapabilities interface is used to send triggered terminal capability reports. It is implemented by the client application developer.

<<Interface>> IpAppExtendedTerminalCapabilities
<<new>> triggeredTerminalCapabilityReport (assignmentID : in TpAssignmentID, terminals : in TpAddressSet, criteria : in TpTerminalCapabilityChangeCriteria, capabilities : in TpTerminalCapabilities) : void <<new>> triggeredTerminalCapabilityReportErr (assignmentId : in TpAssignmentID, terminals : in TpAddressSet, cause : in TpTerminalCapabilitiesError) : void

8.3.1 Method <<new>> triggeredTerminalCapabilityReport()

This terminal capability report is issued when the capabilities of the terminal have changed in the way specified by the criteria parameter in the previously invoked triggeredTerminalCapabilityStartReq () method.

Parameters

assignmentID : in TpAssignmentID

Specifies the assignment ID of the report.

terminals : in TpAddressSet

Specifies the terminal(s) either by subscriber or terminal ID or both as described for the triggeredTerminalCapabilityStartReq () method.

criteria : in TpTerminalCapabilityChangeCriteria

Specifies the criteria that caused the report to be sent.

capabilities : in TpTerminalCapabilities

Specifies the capabilities of the terminal. The network may override some capabilities that have been indicated by the terminal itself due to network policies or other restrictions or modifications in the supported capabilities.

8.3.2 Method <<new>> triggeredTerminalCapabilityReportErr()

This method indicates that the requested reporting has failed. Note that errors may concern the whole assignment or just some terminals. In the former case no terminals are specified.

Parameters

assignmentId : in TpAssignmentID

Specifies the assignment ID.

terminals : in TpAddressSet

Specifies the terminal(s) either by subscriber or terminal ID or both as described for the triggeredTerminalCapabilityStartReq () method.

cause : in TpTerminalCapabilitiesError

Specifies the error that led to the failure.

CHANGE REQUEST

⌘ **29.198-07 CR 010** ⌘ rev **-** ⌘ Current version: **4.4.0** ⌘

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

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Source:	⌘ N5		
Work item code:	⌘ OSA1	Date:	⌘ 31/10/2002
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	Use <u>one</u> 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 <u>one</u> 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)

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Summary of change:	⌘ Add a statement that clarifies which methods are mandatory and which are optional.
Consequences if not approved:	⌘ Application developers will not know which methods will actually be available.

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Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications Test specifications O&M Specifications	⌘
Y	N										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
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<input type="checkbox"/>	<input checked="" type="checkbox"/>										
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.

4 Terminal Capabilities SCF

The following clauses describe each aspect of the Terminal [Capabilities Service](#) Capability Feature (SCF).

The order is as follows:

- The Sequence diagrams give the reader a practical idea of how each of the SCF is implemented.
- The Class relationships clause show how each of the interfaces applicable to the SCF, relate to one another
- The Interface specification clause describes in detail each of the interfaces shown within the Class diagram part.
- The State Transition Diagrams (STD) show the transition between states in the SCF. The states and transitions are well-defined; either methods specified in the Interface specification or events occurring in the underlying networks cause state transitions.
- The Data definitions section show a detailed expansion of each of the data types associated with the methods within the classes. Note that some data types are used in other methods and classes and are therefore defined within the Common Data types part of this specification.

4.1 General requirements on support of methods

An implementation of this API which supports or implements a method described in the present document, shall support or implement the functionality described for that method, for at least one valid set of values for the parameters of that method.

Where a method is not supported by an implementation of a Service interface, the exception P_METHOD_NOT_SUPPORTED shall be returned to any call of that method.

Where a method is not supported by an implementation of an Application interface, a call to that method shall be possible, and no exception shall be returned.

8 Terminal Capabilities Interface Classes

The Terminal Capabilities SCF enables the application to retrieve the terminal capabilities of the specified terminal. The Terminal Capabilities service provides a SCF interface that is called IpTerminalCapabilities. There is no need for an application interface, since IpTerminalCapabilities only contains the synchronous method getTerminalCapabilities.

8.1 Interface Class IpTerminalCapabilities

Inherits from: IpInterface.

The Terminal Capabilities SCF interface IpTerminalCapabilities contains the synchronous method getTerminalCapabilities. The application has to provide the terminalIdentity as input to this method. The result indicates whether or not the terminal capabilities are available in the network and, in case they are, it will return the terminal capabilities (see the data definition of TpTerminalCapabilities for more information).

[This interface shall be implemented by a Terminal Capabilities SCF.](#)

[The getTerminalCapabilities\(\) method shall be implemented as a minimum requirement.](#)

<<Interface>> IpTerminalCapabilities
getTerminalCapabilities (terminalIdentity : in TpString) : TpTerminalCapabilities

Method

getTerminalCapabilities()

This method is used by an application to get the capabilities of a user's terminal. Direction: Application to Network.

Returns result : Specifies the latest available capabilities of the user's terminal.

This information, if available, is returned as CC/PP headers as specified in W3C and adopted in the WAP UAProf specifications (see references in Part 1 of this specification). It contains URLs; terminal attributes and values, in RDF format; or a combination of both.

Parameters

terminalIdentity : in TpString

Identifies the terminal. It may be a logical address known by the WAP Gateway/PushProxy.

Returns

TpTerminalCapabilities

Raises

TpCommonExceptions, P_INVALID_TERMINAL_ID