

Oracle® Communications
Performance Intelligence Center

Release Notes

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Oracle® Communications Performance Intelligence Center Release Notes, Release 10.2.1
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CAUTION: Use only the guide downloaded from Oracle Help Center.

Refer to Appendix section for instructions on accessing My Oracle Support and Oracle Help Center.

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Introduction

Oracle Communications Performance Intelligence Center provides the tools that service providers need to capture network traffic data and convert it into useful Business Intelligence for troubleshooting and for managing traffic, roaming, and services, in addition to revenue. With its powerful and configurable filtering, operators can sort through the data to create comprehensive dashboards and key performance indicators (KPIs) for all departments within the service provider. They can also leverage a comprehensive array of performance management and service management capabilities based on network traffic.

Release 10.2.1 is a Maintenance Release for the 10.2.x code stream [see [E60682](#) for more information on Release 10.2].

This Release Notice includes information on new Features, Supported Hardware Baseline, Media and Documentation pack contents, and identifies Firmware and Supported Upgrade Paths for Release 10.2.1. This document also includes listing of both Resolved and Known Bugs for this Release.

Release Notice is included in the Documentation Pack and made available with every Software Release.

1. Release 10.2.1 Content Description

1.1. Supported Hardware Baseline

Refer to the Hardware Installation Guidelines E77486-01 for this release.

1.2. Software Lifecycle

- Support for WebLogic 12c
- Support for Oracle Database 12c
- Support for Java 8
- Refactor Sigtran Surveillance application
- Consolidation of the Reference Data into Centralized Configuration application
- Mediation Protocols Features and Improvements
 - C number in IMS DIAMETER CC CDR
 - Gx builder evolutions
 - Moving Cx/Dx builder to 3GPP Release 12 and populate IMSI
 - RAN MM: Procedure "MM CM Svc Req-MO estab" should have his own timeout s
 - MAP SM TDR have to correlate concatenated SMS without same IMSI
 - BSSMAP cause is taken from CLEAR COMMAND. It is not the best in case of HANDOVER
 - RADIUS Decoding: update to latest RADIUS dictionaries
 - Addition of fields to MAP xDR (non compact)
- Performance Intelligent Center support of new Eagle SLIC card for integrated monitoring

1.3. Obsolescence

- HP G6 Blades and HP G8 Blades servers are not supported.
- Performance Intelligent Center is no longer compatible with
 - Neptune 3G Probe
 - PMF SS7
 - Cross-connect
- Web service to apply queries without connecting to UI
- Mediation Protocols End of Service Life for the following protocols:

Family	Builder	SKU	SW license name	Legacy Part Number
GPRS	Gn Gp Stats	L99462	OC Protocol Mediation I	950-0180-01MKT
SS7	IUP CDR Reconstitution	L99462	OC Protocol Mediation I	950-0214-01MKT
SS7	TUP CDR Reconstitution	L99462	OC Protocol Mediation I	950-0082-01MKT
VoIP	RTCP stats	L99462	OC Protocol Mediation I	950-0124-01MKT

2. Media and Documentation

2.1. Media Pack

All components available for download from the Oracle Software Delivery Cloud (OSDC)
<https://edelivery.oracle.com/> .

Note: This list is accurate at the time of release, but is subject to change. View the Oracle Software Delivery Cloud site for the latest information. In addition, look for the latest patches for this release in the Knowledge Management note [Information Center: Patches for Oracle Communications Performance Intelligence Center \(Doc ID 1989320.2\)](#) in <https://support.oracle.com>

Name	Platform
Oracle Communications Performance Intelligence Center 10.2.1.0.0	Tekelec
Tekelec Platform Distribution 7.4.0.0.0	Tekelec

UPDATE :

OCPIC 10.2.1 software is removed from OSDC and an updated software is available under patch 10.2.1.1.0 on My Oracle Support(MOS) portal. It is recommended to use 10.2.1.1.0 software from MOS for any upgrade/install of OCPIC systems.

2.2. Load Line up

PIC 10.2.1.0.0	Software Version	Platform
Mediation Server - IXP Base (on Tekelec Platform Distribution)	10.2.1.1.0-1.6.0	Tekelec
Management - NSP (on Oracle Linux)	10.2.1-19.9.0	Tekelec/OL
Probed and Integrated Acquisition - xMF(on Tekelec Platform Distribution)	10.2.1.1.0_1.4.0	Tekelec
Mediation Protocol - xDR Builder	10.2.1.2.0-1.14.0	Tekelec
Acquisition Data Feed - Tadapt(32bits)	9.0.2-1.1.0	Tekelec
Performance Intelligence Center MIBS	10.2.1.0.0	Tekelec
Compatible Software		
Tekelec Platform Distribution	7.4.0.0.0_88.37.0	Tekelec
Java 8	8U112 or later	Linux-x86-64
Oracle Linux 7	Update 2 or later	Linux-x86-64
Oracle Database 12c Enterprise Edition Release 64bit	12.1.0.2.0 or later	Linux-x86-64
Oracle WebLogic Server enterprise Edition (FMW, WLS, WebLogic Server 12c) for platform Linux x86-64	12.2.1.1.0 or later	Linux-x86-64
Oracle WebLogic Server Plug-in from Oracle WebLogic Server Standard Edition 12.1.0.0.0 for Linux x86-64	12.1.3.0.0 or later	Linux-x86-64
Oracle ASMLib	2.0.8 or later	Linux-x86-64
Compatible Products		
Eagle	46.2, 46.3, 46.4, 46.5	
Diameter Signaling Router	7.1.1, 7.2.0, 7.3.0, 7.4.0, 8.0	
Falco	Latest	
Oracle Database Appliance	Latest	
Oracle ZFS Storage Appliance	Latest	
Firmware		
HP Solutions Firmware Upgrade Pack	2.2.10 or later	
Oracle Firmware Upgrade Pack	3.1.6 or later	

PIC was tested with the above versions of Compatible Software. For the latest versions:

- Java 8 refer to My Oracle Support Information Center: Installation & Configuration for Oracle Java SE (Doc ID 1412103.2)
- HP Firmware refer to Oracle Help Center <https://docs.oracle.com/en/industries/communications/tekelec-platform/index.html>
- Oracle Firmware refer to Oracle Help Center <https://docs.oracle.com/en/industries/communications/tekelec-platform/index.html>
- Oracle Linux refer to Oracle Software Delivery Cloud <https://edelivery.oracle.com/>

- Oracle Database and related patches refer to Oracle Software Delivery Cloud <https://edelivery.oracle.com/> and My Oracle Support <https://support.oracle.com/>
- Oracle WebLogic Server and Proxy Plugins refer to Oracle Software Delivery Cloud <https://edelivery.oracle.com/>
- Oracle ASMLib refer to Oracle Technology Network <http://www.oracle.com/technetwork/server-storage/linux/asmlib/ol7-2352094.html>

2.3. Core Documentation Set

PIC customer documentation and online help are created whenever significant changes are made that affect system operation or configuration. Revised editions of the documentation and online help are distributed and installed on the customer system. Consult your Installation Manual for details on how to update user documentation. Additionally, all customer documentation is available on the Oracle Help Center. Release Notes are available on Oracle Help Center with each new release of software. The Release Notes list the PRs that have been resolved in the current release and the PRs that are known to exist in the current release.

Listed below is the entire PIC documentation library of User's Guides.

- Management Security Guide
- Alarm Forwarding Guide
- Alarm Application Guide
- Alarm Configuration Guide
- Centralized Configuration Manager Guide
- On Demand UP Guide
- KPI Configuration Guide
- Dashboard Application Guide
- Dashboard Configuration Guide
- System Alarms Guide
- Troubleshooting Application Guide
- Data Feed Configuration Guide
- Audit Viewer Guide
- SS7 Surveillance Guide
- SigTran Surveillance Guide
- Browser Export Scheduler Guide
- Browser Export Guide
- Quick Start Guide

Workstation minimal requirements are now part of the Quick Start Guide

3. Supported Upgrade Path

3.1. Upgrade and Installation

Upgrade/Installation are supported with the software distributions described in these Release Notes.

All documents are available on Oracle Help Center.

3.1.1. Major Upgrade:

Performance Intelligent Center 10.2.0.0.0 to 10.2.1.1.0

Performance Intelligent Center 10.2.0.0.1 to 10.2.1.1.0

3.1.2. Patch Install Support:

Performance Intelligent Center 10.2.1 to 10.2.1.1.0

3.1.3. Fresh Install Support:

Performance Intelligent Center 10.2.1.1.0

3.1.4. Disaster Recovery:

Performance Intelligent Center 10.2.1.1.0

Disaster Recovery (HW failure) shall replace existing supported server with the same HW if available. If not possible, a fresh install of the new hardware shall be done in PIC 10.2.1.1.0

4. Resolved and Known Bugs

4.1. Severity Definitions

The following sections refer to Bug severity levels. Definitions of these levels can be found in the following publication: *TL9000 Quality Management System – R 5.5*

4.2. Resolved Bugs

Fixed in 10.2.1.2.0 patch release on MOS:

Bug	Component	Title	Severity
28302633	MEDPROT	SR: SIP session is not populating correct "CONTACT" field	2
28178484	MEDPROT	New xDR field ζ network-access-mode ζ in LTE Diameter S6 TDR	2
28178457	MGMT	Export failed error when using PNG export function in SS7 Surveillance	3
28178408	MGMT	No PDUs on Multi-Protocol Trace (Paw Icon)	3
28031314	MGMT	Order of chaging permissions in upgrade script need to be corrected	2

Fixed in past releases/patches:

Bug	Component	Title	Severity
27366094	PROBED	IMF Q752 Configuration Session donot have any link statistics data	2
27355007	PROBED	Eaglemonitor events are not reaching fcmmonitor	3
27354995	PROBED	Firewall should be turned off on IMF server post install/upgrade	2
27232718	MEDSRV	IXP Monitoring session are not updated on the PIC 10.2.1 Setup	2
27198058	PROBED	Application alarms related o IMF is not observed on Management Server	2
27163036	PROBED	IMF server state is marked as OOS with two IMF servers in subsystem	2
27008040	MEDPROT	VMSC Address not properly decoded in full decoding	3
26771124	MEDSRV	The IxpExtendDataBroker24hrs.sh script fails to execute	2
26832139	MEDPROT	SIP xDR end-date timestamp is 24 hours behind last PDU end-date timestamp	2
26695879	PROBED	PDU is getting dropped on PMF	2

Bug	Component	Title	Severity
26100339	MGMT	MAJOR UPGRADE 10.1.x to 10.2.1 does not create correct wallet	3
25548756	MEDPROT	SIP: In conversation Parial xDR not created	3
25047123	MGMT	Upgrade failed because of access rights	3
24761509	MEDPROT	SCTP Patch naming note about length must be corrected	3
23584900	MGMT	Management server virtualization requirement are not documented	3
25056950	MGMT	WebLogic instance are not shutting down	3
24570456	MEDPROT	UMTS lu CS TDR some fields empty in TDR if paging received on LUdT	3
24399872	PROBED	pmiaMonitor process stuck due to filter using NOT condition	2
23753991	PROBED	PMF does not get traffic on new TC	3
23624848	MEDSRV	Full decoding not displayed in ProTrace	3
23578175	MGMT	Scheduler Export Is Run, but No File Can Be Found (password related)	2
23346178	MGMT	Calculate Session Period job is not working if DWS SID is not default one	3
23297636	MEDPROT	Paging Timer is not working correctly	2
23172875	MGMT	NSP CCM must not allow wildcard filter	3
23143957	MGMT	NSP Association Selector does not show up	3
22827742	MGMT	Builder installation is failing	3
22746962	MGMT	Exception when accessing historical KPI after upgrade from 10.1 to 10.2	3
22670795	MEDSRV	Enhancements of IP SMPP TDR builder.	4
22670722	MEDPROT	RADIUS: correlation issues (collisions on different ID and not matched)	3
22644316	MGMT	Nightly backup not created after Mgmt-one box major upgrade on standard server	3
22594609	MEDPROT	VoIP SIP : Mixed MSU from different call while using "Call-ID + To + From" mode	2
22566943	MGMT	Contact the Tekelec Customer Care Center.	3
22511373	MGMT	Execution right missing on optional App install scripts	4
22352408	MEDSRV	All diameter AVP are not decoded in PDU part if pdu too big	3
22327850	MEDPROT	Nature of address for D number in ISUP is not populated every time	3
22268224	MEDPROT	Bad xDR reordering message in SIP build log	4
22148854	MEDPROT	UCP TDR: Addr Code Originator field is truncated	3
22134197	PROBED	pduServer0 log out of sequence messages	4

Bug	Component	Title	Severity
21967169	MEDPROT	Sip call with proxy server not well correlated.	2
21802570	MEDSRV	Decoding issue on TP-Parameter-Indicator SM-TP	3
21769730	MEDSRV	BSSAP Speech codec information Decode Issue.	3
21649273	MEDPROT	Enhancements of IP SMPP TDR builder.	4
21565826	MGMT	Cross Control Alarm should be removed	4
21368311	PROBED	Capacity Management is not reporting incident and rejected frames	3
21363378	MEDPROT	IxpBuild process is crashing abterm on MobileAssociationTable	3
20357494	MEDSRV	TKPIC25058: IXP: Transfer late	3
20345363	MEDSRV	MAP Protocol not decoding Na ESRD field	3
20344730	MGMT	TKPIC00006: Authentication failed	3
20219961	MGMT	Zip export with option stored in database - error with session view	3
20182877	MGMT	Exception when exporting Diameter Gy	4
19880758	MGMT	post_upgrade_sanity_check.sh errors on weblogic2 server	3
19561431	MGMT	restore_ixp_xmf.sh reports wrong status	3
19545176	MGMT	Alarm description are not updated while the upgrade	3
19285045	MGMT	Filtering using % is not working	3
19119906	MEDSRV	[236582]ORA-14074 error during IXP_ADD_PARTITIONS procedure	3
19118143	MGMT	[240139]auto completion filter not complete	3
19116550	MEDSRV	[239278]Prolib do not decode sccp over sigtran when sscp message type is FE.	2
19108079	MEDPROT	[232669]RAN MM: Procedure "MM CM Svc Req-MO estab" should have his own timeout s	4

4.3. Known Bugs

Bug	Component	Title	Severity	Customer Impact	Workaround
27506656	MGMT	sync credentials on MGMT with other components does not work	3	This issue occurs only when Mgmt. is using Oracle 12c version 12.2.0. The acquisition and mediation servers are using oracle instant client version 12.1.0. This results in wallet being copied into the directory which is not present on acquisition and mediation servers.	<p>The following workaround should be applied on all the acquisition and mediation servers.</p> <ol style="list-style-type: none"> 1. Login to the affected acquisition/mediation server as root user 2. Create following symlink in the directory "/usr/lib/oracle" 12.2 -> /usr/lib/oracle/12.1/ 3. Verify that symlinks is created. 4. Sync the wallet from the mgmt. server by running "Wallet Sync" procedure again. 5. Verify on acquisition/mediation server that wallet is copied successfully. <p>Verify that database connection is working fine using wallet. Execute sqlplus /@nsp as cfguser</p>
27491990	MGMT	MGMT10.2.1: Weblogic service is not running after major upgrade on NSP	3	After executing upgrade script "sh /mnt/upgrade/upgrade_nsp.sh" on MGMT server, weblogic service is not starting automatically which causes the major upgrade unsuccessful.	<p>Workaround is to login to the console of the MGMT server and execute the following steps.</p> <ol style="list-style-type: none"> 1. Start the nspservice using the command <code>service nspservice start</code> <p>Now check and verify the Major upgrade by running the upgrade script, it should be successful.</p>
27347747	PROBED	E_NOMEM error in IMF leads to input traffic drop	3	The issue has an impact on the IMFs with less memory e.g. E5-APP-B with 8GB RAM. The fcMonitor hogs upto 60% of physical memory and during failover the system might get into in No Memory state and drops MSUs.	<p>When E_NOMEM, error is observed in fcMonitor or eagleMonitor process traces and <code>shl.op</code> is showing Deny counts increasing continuously in its output, then perform the following steps:</p> <ol style="list-style-type: none"> 1. Login as <code>cfguser</code> on IMF server 2. Run command <code>pm.set off fcMonitor</code> 3. Run command <code>pm.set on fcMonitor</code> 4. Execute <code>shl.op</code> command to verify that Deny count in the output is not increasing. <p>Apart from the above work around, it is recommended that FC links and associations are distributed across other spare servers if available in IMF sub-system.</p>

27340452	MGMT	Unable to execute Historical Protraq sessions	3	In case the issue is encountered then concerned historical KPI does not work and also the running historical KPI can't be stopped.	<p>If the status goes to cancelled instead of idle when you click on Stop then</p> <ol style="list-style-type: none"> 1. Click the stop button again. 2. The status will be changed back to idle. <p>Now check and verify that the session can be started.</p>
27340392	MGMT	Cannot run Protocol Tracing from Session Views	3	This issue blocks the Protocol tracing feature. The user will not be able to use the tracing across multiple protocols for a call.	<p>Workaround is to login to the weblogic console as weblogic user and execute the below steps.</p> <ol style="list-style-type: none"> 1. Click on the domain and click on JPA. 2. Change the Default JPA Provider to Kodo and click on Save 3. Click on Activate Changes for the configuration change to take effect. <p>The password for tekelec user should be Tekelec1, in case the password for tekelec user is not set to Tekelec1, login to the Management GUI and execute the below steps.</p> <ol style="list-style-type: none"> 1. Reset tekelec user password to Tekelec1. <p>Login to the console of the MGMT server and execute the below steps.</p> <ol style="list-style-type: none"> 1. Restart the nspservice using service nspservice restart. 2. Redeploy the protrace application using deploy target protrace.deploy from the command line <p>Now check and verify that the you are able to run the Protocol Tracing from Session Views</p>
26940989	MEDSRV	createUserTbsp.sh setting unsupported parameter in Oracle DB 12.2c	3	The error is reported when executing the script installExtDws.sh. "createUserTbsp.sh" is setting deprecated parameter in Oracle 12c database.	<p>Login to the DWH server as oracle user and execute the following steps:</p> <ol style="list-style-type: none"> 1. Run command <code>sqlplus / as sysdba</code> 2. Run command <code>alter system set sec_case_sensitive_logon=TRUE;</code> 3. Run command <code>exit</code> <p>The <code>installExtDWS.sh</code> script can now be run without errors.</p>

26770341	PROBED	NIC card driver fails to load on SUN servers "ixgbe: Unknown parameter `RSS`"	3	The NIC cards on Probed server do not come up and the server becomes inaccessible. The issue can only be reproduced on SUN server (in this particular case NETRA SERVER 5-2).	This workaround should be applied on the affected Acquisition Servers <ol style="list-style-type: none"> 1. Login using ILO/iLOM on the affected server 2. edit /etc/modprobe.d/TKLCethcfg.conf and comment out the last line "options ixgbe RSS=8,8,8" 3. Reboot the server. After reboot, verify that NIC drivers are properly loaded. The user should be able to login the server by doing ssh to the IP address of the server.
26556171	MGMT	Not able to proceed with NSP install due to incorrect SYS password	3	The installation of management server using Oracle 12c with password having special characters for SYS user does not work cleanly.	It is recommended that for "sys" user password should not contain special characters. In case of password mismatch, password should be set to "oracle" as indicated in step 20 of Doc ID 2164544.1
25118601	MGMT	restore_ixp_xmf.sh reports restore successful but backup was not found/restored	3		Workaround is to manually verify that the file was copied.
24968777	MGMT	Exception thrown when DFP is deleted which is already in use.	3	The proper message is not displayed warning of the DFP currently in use, if the user attempts to delete it.	NA
24961171	MGMT	The changes in assoc is not reflected as the child panel is not getting refreshed	3		In the Sigtran Surveillance application, reload to reflect the changes in associations.
24839886	MGMT	Proper error message should be displayed in case VIP is not accessible	4		Apply will fail but the reason is not specific enough. The workaround is to set the VIP.
24672430	MGMT	User is taken to first page on each refresh	3		In the Sigtran Surveillance application and when using multiple pages, pause the refresh and manually resume.

Appendix A: List of supported protocols and builders

The following table identifies protocols supported by PIC and the version of the protocol specification implemented.

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
SS7	ISUP V1	ITU-T			see ISUP V3
SS7	ISUP V2	ITU-T			see ISUP V3
SS7	ISUP V3	ITU-T	Signaling system N°7 - ISDN user part formats and codes	Q.763 / Sept_97 (Q.761 to Q.764, Q.766 and Q.767)	SS7IsupEtsiCdr SS7IsupEtsiSudrAccounting Ss7IsupEtsiSuperCdr SS7UMSudr
SS7	BT NUP (UK)	National UK BT	BT Network Requirement	BTNR 167 Jul-87	SS7BtntpCdr
SS7	ISUP ANSI Party Information Parameter (PIP)	ANSI	Signaling System N°7 (SS7) - Integrated Services Digital Network (ISDN) User Part Calling Party Name Convention Facility Specification	T1.113-1995 Jun-05 TICO076E Feb-98	SS7IsupAnsiCdr Ss7IsupAnsiSentinelCdr SS7UMSudr
SS7	ISUP Chinese		ETSI ISUP support with 24 bits OPC/DPC		see ISUP V3
SS7	ISUP Russian Variant (Sovintel)	National	CIS ISUP - Functional Description	CIS ISUP - Functional Description	see ISUP V3
SS7	ISUP Portuguese Variant (NOVIS)	National Portugal PT	ESPECIFICAÇÃO DE INTERFACE COM A REDE PÚBLICA INTERFACE DE COMUTADOR (2 Mbit/s) Sinalização Canal Comum SS#7 - Procedimento de taxaço em ISUP	Spécifications PT - Procedimento de taxaço em ISUP Apr-99	see ISUP V3
SS7	ISUP Brazilian Variant	TELEBRAS	#7 Common Channel Signaling System ISDN User part - ISUP, Issue 3	TB 220-250-732 Apr-98	see ISUP V3
SS7	ISUP Colombian Variant	Ministerio des Comunicaciones	Norma Nacional de Señalizacion por Canal Comun N.°7 - SCC7	Norma Nacional Apr-98	see ISUP V3

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
SS7	ISUP Mexican Variant	Telmex	E-801.04 Sepcification - Integrated Services Degital Network user Part (ISUP), Edition "C-3"	E-801.04 Dec-97	see ISUP V3
SS7	ISUP Argentina variant	Telefonica Argentina	RDSI User Part Specification Signaling System N°7	General Specification AR.EG.s1.002 Ed 1 corrected	see ISUP V3
SS7	Cisco E-ISUP	Cisco	EISUP Specification - Cisco Systems	Cisco ENG-46168 Release 44	SS7_EISUP_CDR
		IETF	Reliable UDP Protocol	draft-ietf-sigtran-reliable-udp-00.txt Feb-1999	
SS7	LSSU	ITU-T	Signaling link	Q.703 Jul-96	
SS7	MTP ITU-T Level 2 & 3	ITU-T	Functional description of the Message Transfer Part (MTP) of Signaling System No. 7	Q.701 Mar-93	SS7L2L3EtsiSudr SS7Q752EtsiStats
			Signaling link	Q.703 / Q.704 Jul-96	
SS7	MTP ANSI Level 2 & 3	ANSI	Signaling System N°7 - Message Transfer Part (MTP)	T1.111-1996 Mar-96	SS7L2L3AnsiSudr
SS7	SCCP ITU-T	ITU-T	Signaling connection control part formats and codes	Q.713 Jul-96	Ss7SccpSuaSudr
SS7	SCCP ANSI	ANSI	Signaling System Number 7 - Signaling Connection Control Part (SCCP)	T1.112-1996 Jan-96	Ss7SccpSuaSudr
SS7	TCAP (MAP & INAP support)	ITU-T	Transaction capabilities formats and encoding	Q.773 Jun-97	
SS7	TCAP (IS-41 support)	ANSI	Signaling System Number 7 (SS7) - Transaction Capabilities Application Part (TCAP)	T1.114-1996 Mar-96	
		ANSI	Signaling System Number 7 (SS7) - Transaction Capabilities Application Part (TCAP)	T1.114-2000 Jun-00	

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
SS7	INAP Siemens	Specific: Siemens	Siemens Core INAP	P30308-A7128-A120-01-7659 <i>May-98</i>	SS7InapSudrAccounting SS7InapTdr SS7_INAP_Compact_TDR
SS7	INAP CS1	ETSI	Intelligent Network (IN); Intelligent Network Capability Set 1 (CS1); Core Intelligent Network Application Protocol (INAP);	ETS 300 374-1 <i>Sep-94</i>	SS7InapSudrAccounting SS7InapTdr SS7_INAP_Compact_TDR
		ITU-T	Introduction to intelligent network capability set 1	ITU-T Q.1211 <i>Mar-93</i>	
		ITU-T	Distributed functional plane for intelligent network CS-1	ITU-T Q.1214 <i>Oct-95</i>	
		ITU-T	Interface Recommendation for intelligent network CS-1	ITU-T Q.1218 <i>Oct-95</i>	
SS7	INAP CS2	ITU-T	Intelligent Network (IN); Intelligent Network Application Protocol (INAP); Capability Set 2 (CS2)	ETS 301 140-1 <i>Jun-96</i>	SS7InapSudrAccounting SS7InapTdr SS7_INAP_Compact_TDR
SS7	INAP Ericsson CS1	Ericsson	ERICSSON SUPPORT OF ETSI CORE INAP CS1 Ericsson Support of ETSI Core INAP CS1	87/155-CRT 249 12 Uen <i>May-98</i>	SS7InapSudrAccounting SS7InapTdr SS7_INAP_Compact_TDR
SS7	INAP Ericsson CS1+	Ericsson	Ericsson INAP CS1+, Services assumed from TCAP, revision A	4/155 17-CRT 249 09 Uen <i>Aug-96</i>	SS7InapSudrAccounting SS7InapTdr SS7_INAP_Compact_TDR
			Ericsson INAP CS1+, Abstract Synthax, revision B	171/155 17-CRT 249 12 Uen <i>Jun-03</i>	
SS7	INAP Ericsson V2 / V3 / V4	Ericsson	Ericsson's Protocol for Intelligent Networks, version 4, Formats and Codes	2/155 17-CRT 249 01 Uen D (V2) <i>Jan-96</i> 7/155 17-CRT 249 01 Uen B (V3) <i>Jan-97</i>	SS7InapSudrAccounting SS7InapTdr SS7_INAP_Compact_TDR

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
				12/155 17-CRT 249 01 Uen A (V4) <i>Jan-98</i>	
SS7	INAP Alcatel V3	Alcatel	INAP for E10 Version 3	ALCATEL E10 Version 3 <i>Sep-96</i>	SS7InapSudrAccounting SS7InapTdr SS7_INAP_Compact_TDR
SS7	INAP Alcatel V4	Alcatel	INAP for E10 Version 5	ALCATEL E10 Version 5 <i>Jan-99</i>	SS7InapSudrAccounting SS7InapTdr SS7_INAP_Compact_TDR
SS7	INAP Alcatel CS1	Alcatel	INAP Alcatel CS1	ALCATEL INAP CS1	SS7InapSudrAccounting SS7InapTdr SS7_INAP_Compact_TDR
SS7	CAMEL Phase 2	ETSI	Digital cellular telecommunications system (Phase 2+); Customised Applications for Mobile network Enhanced Logic (CAMEL); CAMEL Application Part (CAP) specification - GSM 09.78	TS 101 046 V7.0.0 (Release 98) <i>Aug-99</i>	SS7InapSudrAccounting SS7InapTdr SS7_INAP_Compact_TDR
SS7	CAMEL Phase 3	ETSI	Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Customised Applications for Mobile network Enhanced Logic (CAMEL); CAMEL Application Part (CAP) specification - GSM 29.78	TS 129 078 V5.9.0 (Release 5) <i>Sep-04</i>	SS7InapSudrAccounting SS7InapTdr SS7_INAP_Compact_TDR
SS7	CAMEL Phase 4	ETSI	Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Customised Applications for Mobile network Enhanced Logic (CAMEL); CAMEL Application Part (CAP) specification - GSM 29.78	TS 129 078 V6.5.0 (Release 6) <i>Jun-06</i>	SS7InapSudrAccounting SS7InapTdr SS7_INAP_Compact_TDR
SS7	BSSAP (Phase 2+) BSSMAP	ETSI	Digital cellular telecommunications system (Phase 2+); Mobile-services Switching Centre – Base Station System (MSC – BSS) interface; Layer 3 specification - 3GPP TS 08.08	TS 48.008 V12.0.0 (Release 12) Sept-14	RanCC2Cdr RanMMTdr RanSMSTdr RanUSSD SS7BssapTdr

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
	DTAP		Digital cellular telecommunications system (Phase 2+); Mobile Radio Interface; Layer 3 specification - 3GPP TS 04.08	TS 24.008 V12.7.0 (Release 12) Sept-14	
	SMS		Digital cellular telecommunications system (Phase 2+); Point-to-Point (PP) Short message Service support on mobile radio interface - 3GPP TS 04.11	TS 24.011 V12.0.0 (Release 12) Sept-14	
	SMS SM-TP		Digital cellular telecommunications system (Phase 2+); Technical realization of the short Message Service (SMS) - 3GPP TS 03.40	TS 23.040 V12.2.0 (Release 12) Dec-14	
	Supplementary Services		Digital cellular telecommunications system (Phase 2+); Mobile Radio interface layer 3 supplementary service specification; Formats and Coding - 3GPP TS 04.80	TS 24.080 V12.0.0 (Release 12) Sept-14	
SS7	BSSAP+ (Gs Interface)	ETSI	Digital Cellular Telecommunications System (Phase 2+); Universal Mobile Telecommunications System (UMTS); general Packet radio Service (GPRS); Serving GPRS Support Node (SGSN) - Visitor Location register (VLR); Gs Interface layer 3 Specification - 3GPP TS 29.018	TS 29.018 V6.5.0 (Release 6) Dec-06	Ss7GsInterfaceTdr
SS7	GSM MAP	ETSI	Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Mobile Application Part (MAP) specification - 3GPP TS 29.002	TS 29.002 V12.6.0 (Release 12) Sept-14	Ss7HLRVTdr SS7MapTdr SS7MapSudrAccounting SS7MapSmTdr SS7MapMultiLegTdr SS7MapDB SS7Smdr SS7_MAP_Compact_TDR
SS7	IS-41 Révisions B, C, D & E (MAP)	ANSI	Cellular Radiotelecommunications Intersystem Operations	ANSI/TIA/EIA-41-D-1997 Nov-97	SS7IS41DB SS7IS41DE SS7IS41Tdr
	MEID	3GPP2	3G Mobile Equipment identifier (MEID) - Stage 1	3GPP2 S.R0048-A Ver 4.0 Jun-05	

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
		Telecommunications Industry Association	MEID Standards Update, version 1.8.4	TIA-MEID <i>Apr-06</i>	
	IS-41-P	Lucent	ANSI -41 Protocol Extensions for Interfaces C and D (HLR - VLR/MSC) - Issue 2.0	IS-41-P <i>Nov-04</i>	
	IS-41-EE	Ericsson	IS-41 Intersystem Call delivery Signalling	IS-41-EE <i>Jan-99</i>	
SS7	ISDN over IUA	ITU-T	ISDN user-network interface layer 3 specification for basic call control	Q.931 <i>May-98</i>	VoIP_Q_931_Cdr
SS7	AIN MTP ANSI Level 2 & 3 SCCP ANSI TCAP (IS-41 support) Services - CNAM - ATF - NS 800 - LNP - Flexible Number Rounting	ANSI ANSI ANSI Telcordia Telcordia Telcordia	Signalling System N°7 - Message Transfer Part (MTP) Signalling System Number 7 - Signalling Connection Control Part (SCCP) Signalling System Number 7 (SS7) - Transaction Capabilities Application Part (TCAP) Telcordia Technologies Generic Requirements, GR-1188-CORE: Calling Name Delivery Generic Requirements, Issue 2 Telcordia Technologies Generic Requirements, GR-533-CORE: Database Services Service Switching Points - Toll-Free Service Generic Requirements, Issue 2 Telcordia Technologies Generic Requirements, GR-1299-CORE: Switch - Service Control Point (SCP) / Adjunct Interface Generic requirements, Issue 6	T1.111-1996 <i>Mar-96</i> T1.112-1996 <i>Jan-96</i> T1.114-2000 <i>Jun-00</i> GR-1188-CORE <i>Dec-00</i> GR-533-CORE <i>Jun-01</i> GR-1299-CORE <i>Nov-00</i>	SS7AinTdr

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
		Telcordia	Telcordia Technologies Generic Requirements, GR-1519-CORE: CCS Network Interface Specification (CCSNIS) Supporting TR-NWT-001188 Calling Name Delivery Generic Requirements, Issue 1A	GR-1519-CORE <i>Oct-94</i>	
		Telcordia	Telcordia Technologies Generic Requirements, GR-2982-CORE: Local Number LNP Capability, Issue 1	GR-2982-CORE <i>Dec-97</i>	
		Telcordia	Telcordia Technologies Generic Requirements, GR-246-CORE: Specification of Signaling System Number 7, Issue 5	GR-246-CORE <i>Dec-00</i>	
		Telcordia	Telcordia Technologies Generic Requirements, GR-2892-CORE: Switching and Signaling Generic Requirements for Toll-Free Service using AIN, Issue 1	GR-2892-CORE <i>Apr-95</i>	
SS7	LIDB	Telcordia	Telcordia Technologies Generic Requirements, GR-1158-CORE : OSSGR Section 22.3: Line Information Database, Issue 4	GR-1158-CORE <i>Dec-00</i>	SS7LidbTdr
			Telcordia Technologies Generic Requirements, GR-1149-CORE - OSSGR Section 10: System Interfaces, Issue 6	GR-1149-CORE <i>Sep-06</i>	
SS7	CLASS	Telcordia	Telcordia Technologies Generic Requirements, GR-1188-CORE: Calling Name Delivery Generic Requirements, Issue 2	GR-1188-CORE <i>Dec-00</i>	SS7ClassTdr
			Telcordia Technologies Generic Requirements, GR-215-CORE: LSSGR: CLASS Feature: Automatic Callback (FSD 01-02-1250), Issue 2	GR-215-CORE <i>Apr-02</i>	
			Telcordia Technologies Generic Requirements, GR-220-CORE: LSSGR: CLASS Feature: Screening List Editing (FSD 30-28-0000), Issue 2	GR-220-CORE <i>Apr-02</i>	

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
			Telcordia Technologies Generic Requirements, GR-227-CORE: LSSGR: CLASS Feature: Automatic Recall (FSD 01-02-1260), Issue 2	GR-227-CORE <i>Apr-02</i>	
SS7	WIN Services	Telcordia	Wireless Intelligent Network	EIA/TIA IS-771 <i>Jul-99</i>	SS7WinServiceTdr
	IS-771	Telcordia	Wireless Intelligent Network - Addendum 1	EIA/TIA IS-771 <i>Aug-01</i>	
		Telcordia	Cellular Radiotelecommunications intersystem Operations, Revision B to E	EIS/TIA IS-41 <i>Nov-97</i>	
		3GPP2	Win Phase 1, Version 1.0	3GPP2 N.S0013-0 <i>Dec-98</i>	
		3GPP2	Win Phase 2, Version 1.0	3GPP2 N.S0004-0 <i>Apr-01</i>	
		3GPP2	ANSI -41-D Miscellaneous Enhancements, Version 1.0.0, Revision 0	3GPP2 N.S0015 <i>Jan-00</i>	
	IS-826	Telcordia	Wireless Intelligent Network Capabilities for pre-paid Charging	TIA/EIA/IS-826 (1 to 7) <i>Aug-00</i>	
	J-STD-036B	ANSI	Enhanced Wireless SP-3-3890-RV2 9-1-1 Phase II	J-STD-036-B <i>Jan-08</i>	
	IS-843	Telecommunications Industry Association	Wireless Intelligent network Support for Location Based Services	TIA-843 <i>Aug-04</i>	
IS-801	Telecommunications Industry Association	Position Determination Service for cdma2000 Spread Spectrum Systems	TIA-801-A <i>Apr-04</i>		
IS-881	Telecommunications Industry Association	TIA/EIA-41-D Location Services Enhancements	TIA-881 <i>Mar-04</i>		

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
	IS-725	Nortel	TIA/EIA-41-D Enhancements for Over-The-Air Service Provisioning (OTASP) & Parameter Administration (OTAPA), Version 1	TIA/EIA/IS-725-A <i>Mar-99</i>	
	IS-764	Telecommunications Industry Association	TIA/EIA-41-D Enhancements for Wireless Calling Name - Feature Descriptions	TIA-764 <i>Jan-02</i>	
	IS-756	Telcordia	TIA/EIA-41-D Enhancements for Wireless Number Portability Phase II	TIA/EIA/IS-756-A <i>Dec-98</i>	
SS7	BICC ETSI	ITU-T	Bearer Independent Call Control protocol Signaling System N°7 - ISDN User Part	Q.1901 <i>Apr-02</i> Q.763 <i>Sep-97</i> (Q.761 to Q.764, Q.766 and Q.767)	Ss7BICCetsiCdr
SS7	BICC ANSI	ANSI	Specifications of the Bearer Independent Call Control	ANSI T1.BICC.1-2000 to ANSI T1.BICC.7-2000 <i>Jan-00</i>	Ss7BICCAnsiCdr
SS7	SIGTRAN	IETF	Support only for ISUP Family Planned for MAP, INAP and IS-41		IPSctpStats IPSctpSudr SS7M2paStats SS7M2PaSudr Ss7M2uaStats Ss7M2uaSudr SS7M3uaStats Ss7M3uaSudr Ss7ScppSuaSudr Ss7SuaStats SS7_SIGTRAN_Transport_SUDR
	SCTP		Stream Control Transmission Protocol . Used as support for SIGTRAN	RFC 2960 <i>Oct-00</i>	

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
	M3UA		Signaling System 7 (SS7) Message Transfer Part 3 (MTP3) - User Adaptation Layer (M3UA). SUDR & Statistics	RFC 4666 <i>Sep-06</i>	
	M2UA		Signaling System 7 (SS7) Message Transfer Part 2 (MTP2) - User Adaptation Layer	RFC 3331 <i>Sep-02</i>	
	SUA		Signaling Connection Control Part User Adaptation Layer (SUA)	RFC 3868 <i>Oct-04</i>	
	M2PA		Signaling System 7 (SS7) Message Transfer Part 2 (MTP2) - User Peer-to-Peer Adaptation Layer (M2PA). SUDR & Statistics	RFC 4165 <i>Sep-05</i>	
GPRS / IP	GPRS Gn & Gp	ETSI	Digital cellular telecommunications system (Phase 2+); General Packet Radio Service (GPRS);GPRS Tunneling Protocol (GTP) across the Gn and Gp Interface - 3GPP TS 09.60 Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); General Packet Radio Service (GPRS);GPRS Tunneling Protocol (GTP) across the Gn and Gp Interface - 3GPP TS 09.60	TS 101 347 V7.8.0 (Release 98) <i>Sep-01</i> TS 29.060 V12.6.0 (Release 12) Sept-14	GprsGnGpCdr GprsGnGpTdr IP_Sessions_summary_TDR
GPRS	GPRS Gb Network Service (NS) BSS GPRS Protocol (BSSGP)	ETSI ETSI	Digital cellular telecommunications system (Phase 2+); General Packet Radio Service (GPRS); Base Station System (BSS) - Serving GPRS Support Node (SGSN) Interface; Network Service - 3GPP TS 48.016 Digital cellular telecommunications system (Phase 2+); General Packet Radio Service (GPRS); Base Station System (BSS) - Serving GPRS Support Node (SGSN) Interface; BSS GPRS Protocol (BSSGP) - 3GPP TS 48.018	TS 48.016 V7.4.0 (Release 7) <i>Mar-08</i> TS 48.018 V7.13.0 (Release 7) <i>Dec-09</i>	GprsGbTdr

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
	Logical Link Control (LLC)	ETSI	Digital cellular telecommunications system (Phase 2+); General Packet Radio Service (GPRS); Mobile Station - Serving GPRS Support Node (MS - SGSN) Logical Link Control Layer (LLC) - 3GPP TS 04.64	TS 44.064 V7.3.0 (Release 7) <i>Mar-08</i>	
	GPRS Mobility Management (GMM) GPRS Session Managment (GSM)	ETSI	Digital cellular telecommunications system (Phase 2+)(GSM); Mobile Radio Interface; Layer 3 Specification - 3GPP TS 04.08	TS 24.008 V7.12.0 (Release 7) <i>Jun-08</i>	
	SNDCP	ETSI	Digital cellular telecommunications system (Phase 2+); General Packet Radio Service (GPRS); Mobile Station - Serving GPRS Support Node (MS - SGSN); Subnetwork Dependent Convergence Protocol (SNDCP) - 3GPP TS 04.65	TS 24.065 V7.0.0 (Release 7) <i>Dec-06</i>	
	Short Message Service (SMS)	ETSI	Digital cellular telecommunications system (Phase 2+); Point-to-Point (PP) Short Message service (SMS) Support on Mobile Rdio Interface - 3GPP TS 04.11	TS 24.011 V7.1.0 (Release 7) <i>Jun-09</i>	
			Digital cellular telecommunications system (Phase 2+); Technical realization of Short Message Service (SMS) Point-to-Point (PP) - 3GPP TS 03.40	TS 23.040 V7.2.0 (Release 7) <i>Mar-09</i>	
GPRS	GPRS Gr & Gd	ETSI	Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Mobile Application Part (MAP) specification - 3GPP TS 29.002	TS 29.002 V12.6.0 (Release 12) Sept-14	SS7MapTdr SS7_MAP_Compact_TDR

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
IP	DNS	IETF	Domain Names - Concepts and Facilities	<p>RFC 1034 <i>Nov-87</i></p> <p>Not relevant or supported: RFC1101, RFC1183, RFC1348, RFC1876, RFC1982, RFC2065, RFC2181, RFC2308, RFC2535, RFC4033, RFC4034, RFC4035, RFC4343, RFC4035, RFC4592, RFC5936</p> <p>RFC 1035 <i>Nov-87</i></p>	IpDnsTdr
			Domain Names - Implementation and Specification	<p>Not relevant or supported: RFC1101, RFC1183, RFC1348, RFC1876, RFC1982, RFC1995, RFC1996, RFC2065, RFC2136, RFC2181, RFC2137, RFC2308, RFC2535, RFC2845, RFC3425, RFC3658, RFC4033, RFC4034, RFC4035, RFC4343, RFC5936, RFC5966</p>	
IP	DNS ENUM	IETF	E.164 Number and DNS	<p>RFC 2916 <i>Sep-00</i></p>	IpDnsEnumTdr
IP	RADIUS	IETF	Remote Authentication Dial In User Service (RADIUS)	<p>RFC 2865 <i>Jun-00</i></p> <p>RFC2866 <i>Jun-00</i></p> <p>Not relevant or supported: RFC2868, RFC3575, RFC5080</p>	IpRadius
IP	DHCP				IpDhcpTdr

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
	BOOTP	IETF	Bootstrap protocol (BOOTP)	RFC 951 <i>Sep-85</i>	
	DHCP	IETF	Dynamic Host Configuration Protocol	Not relevant or supported: RFC1395, RFC1497, RFC1532, RFC1542, RFC5494 RFC 2131 <i>May-97</i> Not relevant or supported: RFC3396, RFC4361, RFC5494	
IP	WAP WTP WSP	WAP Forum / OMA WAP Forum / OMA	Wireless Transaction protocol WAP - Wireless Session Protocol Specification	WAP-224-WTP-20010710-a <i>Jul-01</i> WAP-230-WSP-20010705-p <i>Jul-01</i>	IpWapv1Tdr
IP	MMS	OMA	Multimedia Messaging Service Encapsulation Protocol Version 1.1	OMA-MMS-ENC-v1_1-20021030-C <i>Oct-02</i>	IpMmsWapv1Tdr IpMmsWapv2Tdr
IP	HTTP	IETF	Hypertext Transfer Protocol - HTTP/1.1	RFC 2616 <i>Jun-99</i> Not relevant or supported: RFC2817, RFC5785, RFC6266	IpHttpTdr
IP	WAP2	IETF WAP Forum / OMA	Hypertext Transfer Protocol - HTTP/1.1 WAP Architecture	RFC 2616 <i>Jun-99</i> Not relevant or supported: RFC2817, RFC5785, RFC6266 WAP-210-WAPArch-20010712 <i>Jul-01</i>	IpWapv2Tdr
IP	POP3	IETF	Post Office protocol - Version 3	RFC 1460 <i>Jun-93</i>	IpPop3Tdr

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
IP	SMTP	IETF	Simple Mail Transfer Protocol	RFC 2821 <i>Apr-01</i>	IpSmtPdr
IP	IMAP4	IETF	Internet Message Access Protocol - Version 4rev1	RFC 2060 <i>Mar-03</i>	IpImap4Tdr
IP	FTP	IETF	File Transfer Protocol	RFC 959 <i>Oct-85</i> Not relevant or supported: RFC2228, RFC2640, RFC2773, RFC3659, RFC5797	IpFtpTdr
IP	TCP	IETF	Transmission Control Protocol	RFC 793 <i>Sep-81</i> Not relevant or supported: RFC1122, RFC3168, RFC6093	IpTcpCdr
IP	RTSP	IETF	Real Time Streaming Protocol (RTSP)	RFC 2326 <i>Apr-98</i>	IpRtspTdr
		IETF	SDP:Session Description Protocol	RFC 2327 <i>Apr-98</i>	
IP	SMPP	SMS Forum	Short Message Peer-to-Peer protocol Specification, Version 5.0	SMPP v5.0 <i>Feb-03</i>	IpSmpPdr
IP	UCP	Logica CMG	Short Message Service center; EMI - UCP Interface 4.6	EMI UCP Interface <i>May-05</i>	IpUcpTdr
UMTS	UMTS Iu-CS Control Plane over IP Iu-PS Control Plane over IP		Universal Mobile Telecommunications System (UMTS); UTRAN Iu interface Radio Access Network Application Part (RANAP) signalling - 3GPP TS 25.413	TS 25.413 V12.3.0 (Release 12) Dec-14	Ran_CC2_Cdr Ran_MM_Tdr Ran_SMS_Tdr Ran_USSD UMTS_Iu_C_TDR UMTS_Iu_P_GMM_TDR UMTS_Iu_P_TDR UMTS_Iu_P_SM_TDR

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
	Iu-PS User Plane over IP	ETSI	Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Mobile radio interface layer 3 specification; Radio Resource Control (RRC) protocol - 3GPP TS 44.018	TS 44.018 V12.3.0 (Release 12) Sept-14	
			Digital cellular telecommunications system (Phase 2+); Mobile Radio interface layer 3 supplementary service specification; Formats and Coding - 3GPP TS 04.80	TS 24.080 V12.0.0 (Release 12) Sept-14	
			Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Technical realization of Short Message Service (SMS) Point-to-Point (PP) - 3GPP TS 24.011	TS 24.011 V12.0.0 (Release 12) Sept-14	
			Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Mobile radio interface Layer 3 specification; Core network protocols; Stage 3 - 3GPP TS 24.008	TS 24.008 V12.7.0 (Release 12) Sept-14	
			Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); General Packet Radio Service (GPRS); GPRS Tunneling Protocol (GTP) across the Gn and Gp Interface - 3GPP TS 09.60	TS 29.060 V12.6.0 (Release 12) Sept-14	
VoIP	VoIP SIP / SIP-T / SIP-I	IETF	SIP Session Initiation Protocol	RFC 3261 Jun-02 Not relevant or supported: RFC3853, RFC4320, RFC4916, RFC5393, RFC5621, RFC5626, RFC5630, RFC5922, RFC5954, RFC6026, RFC6141	VoipSipCdr VoipSiptAnsiCdr VoipSiptItuCdr
		IETF	Reliability of Provisional Responses in the Session Initiation Protocol (SIP)	RFC 3262 Jun-02	

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
		IETF	Session Initiation Protocol (SIP) - Specific Event Notification	RFC 3265 <i>Jun-02</i> Not relevant or supported: RFC5367, RFC5727, RFC6446	
		IETF	The Session Initiation Protocol (SIP) UPDATE Method	RFC 3311 <i>Sep-02</i>	
		IETF	The Session Initiation Protocol (SIP) Refer Method	RFC 3515 <i>Apr-03</i>	
		IETF	The SIP INFO Method	RFC 2976 <i>Oct-00</i>	
		IETF	Session Initiation Protocol for Telephones (SIP-T): Context and Architectures	RFC 3372 <i>Sep-02</i>	
		IETF	SDP:Session Description Protocol	RFC 2327 <i>Apr-98</i>	
		IETF	Session Description Protocol (SDP) Simple Capability Declaration	RFC 3407	
		ITU-T	Interworking between Session Initiation Protocol (SIP) and Bearer Independant Call Control Protocol or ISDN User Part.	Q.1912-5 <i>Mar-04</i>	
		Nortel	CS2000 SIP/SIP-T Interoperability Specification (Issue 0.82) System Requirement Document	Nortel CS2000 <i>01/10/2003</i>	
			Multiple Dialog Usages in the Session Initiation Protocol	<i>RFC5057</i>	
VoIP	VoIP H.225/Q.931	ITU-T	Serie H: Audiovisual and Multimedia Systems - Call Signalling protocols and media stream packetisation for packet-based multimedia communication systems	H.225.0 <i>Jul-03</i>	VoipQ931Cdr
		ITU-T	ISDN user-network interface layer 3 specification for basic call control	Q.931 <i>Dec-99</i>	

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
VoIP	VoIP H.225/RAS	ITU-T	Call Signalling protocols and media stream packetisation for packet-based multimedia communication systems	H.225.1 <i>Jul-03</i>	VoipRasTdr
VoIP	VoIP H.245	ITU-T	Control Protocol for multimrda communication	H.245 <i>Jul-03</i>	VoipH245Tdr
VoIP	VoIP RTP	IETF	RTP: A Transport Protocol for Real-Time Application	RFC 3550, <i>Jul-03</i> RFC3551 <i>Jul-03</i> Not relevant or supported: RFC5506, RFC5761, RFC6051, RFC6222	VoipSipCdr
VoIP	MGCP	IETF IETF IETF	Media Gateway Control Protocol (MGCP) version 1.0 Media Gateway Control Protocol (MGCP) Return Code Usage Media Gateway Control Protocol (MGCP) Packages	RFC 3435 <i>Jan-03</i> Not relevant or supported: RFC3661 RFC 3661 <i>Dec-03</i> RFC 3660 <i>Dec-03</i>	VoipMgcpCdr VoipMgcpTdr
VoIP	MEGACO	IETF	Gateway Control Protocol Version 1.0	RFC 3525 <i>Jun-03</i>	VoipMEGACOTdr
VoIP	H.248	ITU-T	Gateway Control Protocol: Version 2	H.248.1 <i>May-02</i> Supported packages H.248.2 until H.248.31	VoipH248Tdr

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
IMS	Diameter	IETF	Diameter Base Protocol	RFC 3588 Sep-03	ImsDiameterCcTdr ImsDiameterCxTdr ImsDiameterGqTdr ImsDiameterShTdr ImsDiameterTdr LTE_Diameter-TDR
		IETF	Diameter Credit-Control Application	RFC 4006 Aug-05	
	Diameter Credit-Control (Cc, Ro, Rf, Gy, Ga)	ETSI / 3GPP	3rd Generation Partnership Project; Technical Specification Group Service and System Aspects; Telecommunication management; Charging management;	TS 32.299 V12.6.0 (Release 12) Sept-14	
			Diameter charging applications		
	Diameter Gq	ETSI	Universal Mobile Telecommunications System (UMTS); Policy control over Gq interface (3GPP TS 29.209 version 6.5.0 Release 6) . Replaced by Rx in LTE	TS 29.209 V6.5.0 (Release 6) Jun-06	
	Diameter Cx/Dx	ETSI	Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); IP Multimedia (IM) Subsystem Cx and Dx Interfaces; Signalling flows and message contents 3GPP TS 29.228	TS 29.228 V12.3.0 (Release 12) Sept-14	
		ETSI	Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Cx and Dx interfaces based on the Diameter protocol 3GPP TS 29.229	TS 29.229 V12.3.0 (Release 12) Sept-14	
ETSI		Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Diameter applications; 3GPP specific codes and identifiers 3GPP TS 29.230	TS 29.230 V12.6.0 (Release 12) Sept-14		

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
	Diameter Sh	ETSI	Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Sh interface based on the Diameter protocol; 3GPP TS 29.329	TS 29.329 V12.4.0 (Release 12) Sept-14	
LTE	Diameter S6	3GPP	3rd Generation Partnership Project; Technical Specification Group Core Network and Terminals; Evolved Packet System (EPS); Mobility Management Entity (MME) and Serving GPRS Support Node (SGSN) related interfaces based on Diameter protocol (Release 9)	TS 29.272 V12.6.0 (Release 12) Sept-14	LTE_Diameter_S6_TDR LTE_Diameter_SUDR_Accounting LTE_Diameter-TDR
	Diameter Gx/S7	3GPP	3rd Generation Partnership Project; Technical Specification Group Core Network and Terminals; Policy and Charging Control over Gx reference point (Release 9)	TS 29.212 V12.6.0 (Release 12) Sept-14	LTE_Diameter_Gx_TDR LTE_Diameter-TDR
	Diameter Rx	3GPP	3rd Generation Partnership Project; Technical Specification Group Core Network and Terminals; Policy and Charging Control over Rx reference point (Release 9)	TS 29.214 V12.5.0 (Release 12) Sept-14	LTE_Diameter_Rx_TDR LTE_Diameter-TDR
	Diameter Gy	3GPP	3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Telecommunication management; Charging management; Diameter charging applications	TS 32.299 V12.6.0 (Release 12) Sept-14	LTE_DIAMETER_Gy_TDR LTE_Diameter-TDR
	Diameter S9	3GPP	3rd Generation Partnership Project; Technical Specification Group Core Network and Terminals; Policy and Charging Control (PCC) over S9 reference point; Stage 3	TS 29.215 V12.5.0 (Release 12) Sept-14	LTE_DIAMETER_S9_TDR LTE_Diameter-TDR

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
	Diameter AAA	3GPP	3rd Generation Partnership Project; Technical Specification Group Core Network and Terminals; Evolved Packet System (EPS); 3GPP EPS AAA interfaces	TS 29.273 V12.5.0 (Release 12) Sept-14	LTE_Diameter_AAA_TDR
	Diameter LCS	3GPP	3rd Generation Partnership Project; Technical Specification Group Core Network and Terminals; Location Services (LCS); Evolved Packet Core (EPC) LCS Protocol (ELP) between the Gateway Mobile Location Centre (GMLC) and the Mobile Management Entity (MME); SLg interface	TS 29.172 V12.4.0 (Release 12) Mar-14	LTE_Diameter_LCS_TDR
			3rd Generation Partnership Project; Technical Specification Group Core Network and Terminals; Location Services (LCS); Diameter-based SLh interface for Control Plane LCS	TS 29.173 V12.2.0 (Release 12) Sept-14	
	GTPv2	3GPP	3rd Generation Partnership Project; Technical Specification Group Core Network and Terminals; 3GPP Evolved Packet System (EPS); Evolved General Packet Radio Service (GPRS) Tunnelling Protocol for Control plane (GTPv2-C); Stage 3 (Release 9)	TS 29.274 V12.6.0 (Release 12) Sept-14	LTE_GTP_v2_Tunnel_Management_TDR LTE_GTP_v2_Mobility_Management_TDR LTE_GTP_v2_Sv_TDR

Family	Protocol	Organization	Complete Reference	PIC 10.2 standards	Final builder
	S1-AP	3GPP	3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access Network (E-UTRAN); S1 Application Protocol (S1AP) (Release 9)	TS 36.413 V12.3.0 (Release 12) Sept-14	LTE_S1AP_TDR RAN_ESM_TDR RAN_EMM_TDR
	SGs	3GPP	3rd Generation Partnership Project; Technical Specification Group Core Network and Terminals; Non-Access-Stratum (NAS) protocol for Evolved Packet System (EPS); Stage 3 (Release 9)	TS 24.301 V12.6.0 (Release 12) (Release 12)Sept-14	
		3GPP	3rd Generation Partnership Project; Technical Specification Group Core Network and Terminals; Mobility Management Entity (MME) – Visitor Location Register (VLR) SGs interface specification (Release 9)	TS 29.118 V12.6.0 (Release 12) Sept-14	LTE_SGsAP_TDR
	LTE User Plane (S5-U, S8-U, S1-U, S12-U)	3GPP	3rd Generation Partnership Project; Technical Specification Group Core Network and Terminals; General Packet Radio System (GPRS) Tunnelling Protocol User Plane (GTPv1-U) (Release 9)	TS 29.281 V11.6.0 (Release 11) Mar-13	LTE_GTP_User_Plane_Capture

Appendix B: My Oracle Support

My Oracle Support (<https://support.oracle.com>) is your initial point of contact for all product support and training needs. A representative at Customer Access Support (CAS) can assist you with My Oracle Support registration.

Call the CAS main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at <http://www.oracle.com/us/support/contact/index.html>. When calling, make the selections in the sequence shown below on the Support telephone menu:

1. Select 2 for New Service Request
2. Select 3 for Hardware, Networking and Solaris Operating System Support
3. Select 2 for Non-technical issue

You will be connected to a live agent who can assist you with My Oracle Support registration and provide Support Identifiers. Simply mention you are a Tekelec Customer new to My Oracle Support.

My Oracle Support is available 24 hours a day, 7 days a week.