

MTAS Statement of Compliance Overview

MTAS

STATEMENT OF COMPLIANCE

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1 Introduction

The purpose of this document is to provide general information about compliancies with standards for the MTAS.

1.1 Prerequisites

This section states the prerequisites for this document, if applicable.





2 Statement of Compliance Definitions

One of the following statements is given to each standard specification:

- **Compliant:** The functionality that is provided has been implemented in accordance with relevant and mandatory requirements in the specification. Possible limitations in the functionality are summarized.
- **Partially Compliant:** Part of the functionality that is provided has either been implemented in a way that is deviating from relevant and mandatory requirements in the specification, or if there is functionality that has not been implemented.
- **Not Compliant:** The functionality that is provided has been implemented in a way that is deviating from relevant and mandatory requirements in the specification.
- **Not Applicable:** No explicit MTAS requirements.

Note: Compliant sometimes means that the functionality is transparent for the MTAS.





3 Standards

This section describes the standards with which the MTAS is compliant.

3.1 3GPP Specifications

The compliance for each specification is described in Table 1.

Note: In this document, the IMS core network and MMTel services comply to 3GPP specifications based on Release 8. The charging systems comply to 3GPP specifications Release 7 or Release 9. The MMTel services comply to 3GPP Release 8.

Table 1 3GPP Specifications

| Specification/ Version | Title | Compliance | Comment |
|---------------------------|---|----------------|---|
| 3GPP TS 04.08 V7.21.0 | Mobile radio interface Layer 3 specification | Compliant | |
| 3GPP TS 21.905 V8.8.0 | Vocabulary for 3GPP Specifications | Not Applicable | |
| 3GPP TS 22.101 V8.11.0 | 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects Service aspects; Service principles | Not Applicable | |
| 3GPP TS 22.127 V8.1.0 | Service requirement for the Open Services Access (OSA); Stage 1 | Not Applicable | Call Control Service is supported. |
| 3GPP TS 22.340 V8.1.0 | IMS Messaging; Stage 1 | Not Applicable | Supports end-to-end Message Session Relay Protocol (MSRP) session-based messaging. |
| 3GPP TS 23.002 V8.4.0 | Network architecture | Not Applicable | |
| 3GPP TS 23.003 V8.4.0 | Technical Specification Group Core Network; Numbering, addressing, and identification | Not Applicable | |

Table 1 3GPP Specifications

| Specification/ Version | Title | Compliance | Comment |
|-----------------------------------|--|-------------------|---|
| 3GPP TS 23.125 V6.8.0 | Overall high-level functionality and architecture impacts of flow based charging | Not Applicable | |
| 3GPP TS 23.141 V8.1.0 | Presence Service; Architecture and functional description | Not Applicable | The MTAS retrieves presence status. |
| 3GPP TS 23.198 V8.0.0 | Open Service Access (OSA); Stage 2 | Not Applicable | Architecture principles followed in terms of implementing services. |
| 3GPP TS 23.207 V8.0.0 | End-to-end Quality of Service (QoS) concept and architecture | Not Applicable | |
| 3GPP TS 23.218 V8.4.0 | IP Multimedia (IM) session handling; IM call model; Stage 2 | Not Applicable | |
| 3GPP TS 23.221 V8.3.0 | Architectural requirements | Not Applicable | |
| 3GPP TS 23.228 V8.8.0 | IP Multimedia Subsystem (IMS); Stage 2 | Not Applicable | GRUU is not supported in the MTAS data model. |
| 3GPP TS 23.237 V10.49.0 | IP Multimedia Subsystem (IMS) Service Continuity; Stage 2 | Not Applicable | Packet Switched-Circuit Switched (PS-CS) transfer is supported. |
| 3GPP TS 23.240 V8.0.0 | 3GPP Generic User Profile - Architecture; Stage 2 | Not Applicable | |



Table 1 3GPP Specifications

| Specification/ Version | Title | Compliance | Comment |
|---------------------------|--|---------------------|---|
| 3GPP TS 23.333 V8.3.0 | Mp interface (Functions and Procedures) | Not Applicable | <p>The following sections in the 3GPP TS 23.333 specification are supported:</p> <ul style="list-style-type: none"> • 5.3, <i>Play Announcement</i> • 5.6, <i>DTMF Collection</i> • 5.8, <i>Play Multimedia</i> • 5.10, <i>Audio Conference</i> • 5.11, <i>Multimedia Conference</i> • 5.12, <i>Audio Transcoding</i> • 5.13, <i>Video Transcoding</i> |
| | | | |
| | | | |
| 3GPP TS 24.147 V8.2.0 | Conferencing using the IP Multimedia (IM) Core Network (CN) subsystem; Stage 3 | Partially Compliant | <p>INVITE with URI list is only supported for initial INVITE requests.</p> <p>Section 5.3.1.5.2 in the 3GPP TS 24.147 specification is not supported.</p> |
| 3GPP TS 24.173 V8.4.0 | IMS Multimedia Telephony service and supplementary services; Stage 3 | Partially Compliant | <p>Message Waiting Indicator Not Applicable (MWI NA).</p> <p>Flexible Alerting (FA): proprietary service, see the comment for TS 24.239, is supported.</p> <p>Explicit Communication Transfer (ECT) blind transfer is not supported</p> <p>Closed User Group (CUG) is partially supported.</p> |

Table 1 3GPP Specifications

| Specification/ Version | Title | Compliance | Comment |
|-----------------------------------|--|---------------------|---|
| 3GPP TS 24.229 V8.7.0 | Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3 | Partially Compliant | GRUU is not supported. Regarding PANI header, the MTAS does not apply the constraint stated in bullet 4 in section 7.2A.4.3, however the bullet has been removed in V10.1.0 and later versions. |
| 3GPP TS 24.237 V12.6.0 | IP Multimedia (IM) Core Network (CN) subsystem IP Multimedia Subsystem (IMS) service continuity; Stage 3 | Partially Compliant | The following are supported: <ul style="list-style-type: none"> • PS-CS transfer • PS to CS access transfer, PS to CS SRVCC enhancement using ATCF • PS to CS access transfer when call is in alerting or pre-alerting phase Mobile switching center (MSC) server assisted mid-call service is not supported. |
| 3GPP TS 24.247 V8.2.0 | Messaging using the IP Multimedia (IM) Core Network (CN) subsystem; Stage 3 | Compliant | MTAS supports MSRP session-based messaging. |
| 3GPP TS 24.292 V10.9.0 | IMS Centralized Services | Partially Compliant | MSC enhanced for IMS Centralized Services (ICS) is supported. Only one Voice over LTE (VoLTE) User Equipment (UE) in Implicit Registration Set (IRS) is supported. ICS enhanced UE is not supported. Using MSRN from HSS/HLR when call setup to VoLTE UE on CS is supported. |



Table 1 3GPP Specifications

| Specification/ Version | Title | Compliance | Comment |
|----------------------------|--|---------------------|---|
| 3GPP TS 24.525 V12.0.0 | 3rd Generation Partnership Project; Technical Specification Group Core Network and Terminals; Business Trunking; Architecture and functional description | Partially Compliant | ST AS supports Business Trunking architecture and applications. Supported connectivity: <ul style="list-style-type: none"> • Subscription-based Business Trunking • Peering based Business Trunking Not supported applications: <ul style="list-style-type: none"> • Advise of Charge • Break-in/ Break-out |
| 3GPP TR 24.930 V8.2.0 | Signalling flows for the session setup in the IM CN subsystem based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP) | Not Applicable | |
| 3GPP TS 26.236 V8.0.0 | Packet switched conversational multimedia applications; Transport protocols | Compliant | |
| 3GPP TS 29.002 V9.3.0 | Mobile Application Part (MAP) specification (release 9) | Compliant | |
| 3GPP TS 29.163 V8.7.0 | Interworking between the IP Multimedia (IM) Core Network (CN) subsystem and Circuit Switched (CS) networks | Compliant | The MTAS supports Media Gateway Control Function (MGCF) acting as specified. |
| 3GPP TS 29.199-1 V8.1.0 | Open Service Access (OSA); Parlay X web services; Part 1: Common | Partially Compliant | Used parts compliant, refer to <i>Parlay X MMTel Extensions</i> . |
| 3GPP TS 29.199-2 V8.1.0 | Open Service Access (OSA); Parlay X web services; Part 2: Third-party call | Partially Compliant | Used parts compliant, refer to <i>Parlay X MMTel Extensions</i> . |

Table 1 3GPP Specifications

| Specification/ Version | Title | Compliance | Comment |
|----------------------------|---|---------------------|---|
| 3GPP TS 29.199-3 V8.2.0 | Open Service Access (OSA); Parlay X web services; Part 3: Call notification | Partially Compliant | Used parts compliant, refer to <i>Parlay X MMTel Extensions</i> . |
| 3GPP TS 29.208 V6.7.0 | End-to-end Quality of Service (QoS) signalling flows | Compliant | |
| 3GPP TS 29.229 V6.7.0 | Cx and Dx interfaces based on the Diameter protocol | Partially Compliant | Procedure to find Home Subscriber Server (HSS) is supported. Dynamic discovery of Notif-Eff and Update-Eff features is supported (see 3GPP TS 29.329). |
| 3GPP TS 29.328 V10.3.0 | IP Multimedia (IM) Subsystem Sh interface; Signalling flows and message contents (release 10) | Partially Compliant | Notif-Eff and Update-Eff features are partially supported. Multiple HSS identities (more than one Redirect-Host AVPs) are not supported in the Sh response from an SLF and thus failover to an alternative HSS is not supported. |
| 3GPP TS 29.329 V10.4.0 | Sh interface based on the Diameter protocol | Partially Compliant | Notif-Eff and Update-Eff optional features are supported only if Data Reference is of type Repository Data and the SI refers to one or multiple Service Data instances. Combining Data References and Identity Sets is not supported. |



Table 1 3GPP Specifications

| Specification/ Version | Title | Compliance | Comment |
|-------------------------------------|--|------------------------|---|
| 3GPP TS 29.333 V8.4.1 | Mp interface (Profile) | Partially Compliant | Functions and procedures described in comment to 3GPP TS 23.333 specification, are supported. Used Packages: Generic, Base Root, Generic Announcement, AAS Digit collection, ASR speech recognition, and Supplemental tones package. |
| 3GPP TS 29.364 V8.4.0 | IP Multimedia Subsystem (IMS) Application Server (AS) service data descriptions for AS interoperability | Not Compliant | |
| 3GPP TS 29.658 V8.4.0 | SIP Transfer of IP Multimedia Service Tariff Information | Compliant | |
| 3GPP TS 29.962 V6.1.1 | Signalling interworking between the 3GPP profile of the Session Initiation Protocol (SIP) and non-3GPP SIP use | Not Applicable | |
| 3GPP TS 32.101 V6.1.0 | Telecommunication management; Principles and high-level requirements | Compliant | |
| 3GPP TS 32.102 V6.3.0 | Telecommunication management; Architecture | Compliant | |
| 3GPP TS 32.104 V3.4.0 | Release 6, 3G Performance Management | Compliant | |
| 3GPP TS 32.106–2 V3.3.0 & V3.2.0 | Notification Integration Reference Point (IRP): Information Service (IS) | Compliant | |

Table 1 3GPP Specifications

| Specification/ Version | Title | Compliance | Comment |
|-------------------------------------|---|---------------------|---|
| 3GPP TS 32.106–3 V3.3.0 & V3.2.0 | Notification Integration Reference Point (IRP); Common Object Request Broker Architecture (CORBA) Solution Set (SS) | Compliant | |
| 3GPP TS 32.106–8 V3.2.0 | Name Convention for Managed Objects | Compliant | |
| 3GPP TS 32.111-1 V3.3.0 | Telecommunication management; Fault Management; Part 1: 3G fault management requirements | Compliant | |
| 3GPP TS 32.111-2 V3.3.0 | Telecommunication management; Fault Management; Part 2: Alarm Integration Reference Point (IRP): Information Service (IS) | Compliant | |
| 3GPP TS 32.111–3 V3.3.0 | Alarm Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set (SS) | Compliant | |
| 3GPP TS 32.150 V6.2.0 | Integration Reference Point (IRP) Concept and definitions | Compliant | |
| 3GPP TS 32.240 V9.2.0 | Charging architecture and principles. | Compliant | |
| 3GPP TS 32.260 V9.11.0 | IP Multimedia Subsystem (IMS) charging | Compliant | |
| 3GPP TS 32.275 V9.14.0 | Telecommunication management; Charging management; Multimedia Telephony (MMTel) charging | Partially Compliant | For details, refer to <i>Managed Object Model (MOM)</i> . |



Table 1 3GPP Specifications

| Specification/ Version | Title | Compliance | Comment |
|-----------------------------------|--|-------------------|----------------|
| 3GPP TS 32.280 V8.1.0 | Telecommunication management; Charging management; Advice of Charge (AoC) service | Compliant | |
| 3GPP TS 32.299 V6.11.0 | Diameter charging applications | Compliant | |
| 3GPP TS 32.299 V7.7.0 | Diameter charging applications | Compliant | |
| 3GPP TS 32.299 V9.14.0 | Diameter charging applications | Compliant | |
| 3GPP TS 32.302 V6.3.0 | Notification Integration Reference Point (IRP): Information Service (IS) | Compliant | |
| 3GPP TS 32.312 V6.3.0 | Generic Integration Reference Point (IRP) management; Information Service (IS) | Compliant | |
| 3GPP TS 32.401 V5.5.0 & V6.2.0 | 3G Performance Management (PM) | Compliant | |
| 3GPP TS 32.412 V6.9.0 | Performance Management (PM) Integration Reference Point (IRP): Information Service (IS) | Compliant | |
| TS32.421 V9.1.0 | Subscriber and equipment trace: Trace concepts and requirements | Compliant | |
| TS 32.422 V9.5.0 | Subscriber and equipment trace: Trace control and configuration management | Compliant | |
| 3GPP TS 32.423 V9.7.0 | Telecommunication management; Subscriber and equipment trace; Trace data definition and management | Compliant | |

Table 1 3GPP Specifications

| Specification/ Version | Title | Compliance | Comment |
|-----------------------------------|---|-------------------|----------------|
| 3GPP TS 32.600 V6.0.0 | Configuration Management (CM); Concept and high-level requirements | Compliant | |
| 3GPP TS 33.222 V8.0.0 | Generic Authentication Architecture (GAA); Access to network Application Functions using Hypertext Transfer Protocol over Transport Layer Security (HTTPS) | Compliant | |

3.2 IETF RFCs

The compliance for each specification is described in Table 2.

Table 2 IETF RFCs Specifications

| Specificat ion | Title | Compliant | Comment |
|---------------------------|---|------------------|----------------|
| RFC 768 | User Datagram Protocol | Compliant | |
| RFC 791 | Internet Protocol | Compliant | |
| RFC 793 | Transmission Control Protocol | Compliant | |
| RFC 959 | File Transfer Protocol | Compliant | |
| RFC 1321 | The MD5 Message-Digest Algorithm | Compliant | |
| RFC 1579 | Firewall-Friendly FTP | Compliant | |
| RFC 1901 | Introduction to Community-based SNMPv2 | Compliant | |
| RFC 1907 | Management Information Base for Version 2 of the Simple Network Management Protocol (SNMPv2). | Compliant | |
| RFC 2045 | Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies | Compliant | |



Table 2 IETF RFCs Specifications

| Specification | Title | Compliant | Comment |
|---------------|---|---------------------|--|
| RFC 2046 | Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types | Compliant | |
| RFC 2141 | Uniform Resource Name (URN) Syntax | Compliant | |
| RFC 2183 | Communicating Presentation Information in Internet Messages: The Content-Disposition Header Field | Compliant | |
| RFC 2234 | Augmented BNF for Syntax Specifications: ABNF | Compliant | Made obsolete by RFC 4234 and RFC 5234 . |
| RFC 2251 | Lightweight Directory Access Protocol (v3) | Compliant | |
| RFC 2252 | Lightweight Directory Access Protocol (V3): Attribute Syntax Definitions | Compliant | |
| RFC 2275 | View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP) | Compliant | O&M is used for alarm handling. |
| RFC 2327 | SDP: Session Description Protocol | Compliant | Made obsolete by RFC 4566 . |
| RFC 2396 | Uniform Resource Identifiers (URI): Generic Syntax | Compliant | Made obsolete by RFC 3986 . |
| RFC 2460 | Internet Protocol, Version 6 (IPv6) Specification | Partially compliant | Traffical plane supported. O&M interfaces, Muta Interface supported. |
| RFC 2474 | Definition of the Differentiated Services Field (DS Field) | Partially compliant | MTAS supports setting of DS code points. |
| RFC 2486 | The Network Access Identifier | Compliant | |
| RFC 2574 | User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3) | Partially compliant | O&M: Supported by the Platform. |

Table 2 IETF RFCs Specifications

| Specification | Title | Compliant | Comment |
|---------------|---|---------------------|--|
| RFC 2616 | Hypertext Transfer Protocol HTTP/1.1 | Compliant | |
| RFC 2617 | HTTP Authentication: Basic and Digest Access Authentication | Compliant | |
| RFC 2741 | Agent Extensibility (AgentX) Protocol. | Compliant | |
| RFC 2818 | HTTP Over TLS | Compliant | |
| RFC 2822 | Internet Message Format | Compliant | |
| RFC 2849 | The LDAP Data Interchange Format (LDIF) | Compliant | |
| RFC 2960 | Stream Control Transmission Protocol | Compliant | |
| RFC 2976 | The SIP INFO Method | Compliant | Made obsolete by RFC 6086 . |
| RFC 3023 | XML Media Types | Compliant | |
| RFC 3261 | SIP: Session Initiation Protocol | Compliant | |
| RFC 3262 | Reliability of Provisional Responses In the Session Initiation Protocol (SIP) | Compliant | |
| RFC 3263 | Session Initiation Protocol (SIP): Locating SIP Servers | Compliant | |
| RFC 3264 | An Offer/Answer Model with the Session Description Protocol (SDP) | Compliant | |
| RFC 3265 | Session Initiation Protocol (SIP)-specific Event Notification | Compliant | |
| RFC 3311 | The Session Initiation Protocol (SIP) UPDATE Method. | Compliant | |
| RFC 3312 | Integration of Resource Management and Session Initiation Protocol (SIP) | Partially compliant | SDP in CANCEL requests and 580 responses are not included and supported. |
| RFC 3323 | A Privacy Mechanism for the Session Initiation Protocol (SIP) | Compliant | |



Table 2 IETF RFCs Specifications

| Specification | Title | Compliant | Comment |
|----------------------|---|---------------------|---|
| RFC 3325 | Private Extensions to the Session Initiation Protocol (SIP) for Asserted Identity within Trusted Networks | Compliant | |
| RFC 3326 | The Reason Header Field for the Session Initiation Protocol (SIP) | Compliant | |
| RFC 3327 | Session Initiation Protocol (SIP) Extension Header Field for Registering Non-Adjacent Contacts | Partially compliant | The MTAS only reads the Path header for Single Radio Voice Call Continuity (SRVCC) service. |
| RFC 3388 | Grouping of Media Lines in the Session Description Protocol | Partially compliant | MTAS is transparent to this information. SCTP as transport not supported. |
| RFC 3413 | Simple Network Management Protocol (SNMP) Applications (Definition for SNMP-TARGET-MIB) | Compliant | |
| RFC 3420 | Internet Media Type message/sipfrag | Compliant | |
| RFC 3428 | Session Initiation Protocol (SIP) Extension for Instant Messaging | Compliant | |
| RFC 3455 | Private Header (P-Header) Extensions to the Session Initiation Protocol (SIP) for the 3rd Generation Partnership Project (3GPP) | Compliant | |
| RFC 3482 | Number Portability in the Global Switched Telephone Network (GSTN): An Overview | Compliant | |
| RFC 3515 | The Session Initiation Protocols (SIP) Refer Method | Compliant | Out of dialog REFER not supported. |
| RFC 3524 | Mapping of Media Streams to Resource Reservation Flows | Compliant | |

Table 2 IETF RFCs Specifications

| Specification | Title | Compliant | Comment |
|---------------|--|---------------------|--|
| RFC 3588 | Diameter Base Protocol | Partially Compliant | SCTP as Transport not supported. |
| RFC 3665 | Session Initiation Protocol (SIP) Basic Call Flow Example | Partially compliant | Miscellaneous examples are supported. |
| RFC 3680 | A Session Initiation Protocol (SIP) Event Package for Registrations | Compliant | |
| RFC 3688 | The IETF XML Registry | Compliant | |
| RFC 3840 | Indicating User Agent Capabilities in the Session Initiation Protocol (SIP) | Compliant | The MTAS is not using it, but the MTAS is transparent if UEs would like to use it. |
| RFC 3841 | Caller Preferences for the Session Initiation Protocol (SIP) | Partially compliant | Only partially used by the MTAS. |
| RFC 3856 | A Presence Event Package for the Session Initiation Protocol (SIP) | Partially compliant | Acting as a watcher for Communication Diversion (CDIV) service. |
| RFC 3863 | Presence Information Data Format (PIDF) | Compliant | |
| RFC 3891 | Session Initiation Protocol (SIP) "Replaces" Header | Compliant | |
| RFC 3892 | The Session Initiation Protocol (SIP) Referred-By Mechanism | Compliant | |
| RFC 3903 | Session Initiation Protocol (SIP) Extension for Event State Publication | Compliant | |
| RFC 3960 | Early Media and Ringing Tone Generation in the Session Initiation Protocol (SIP) | Compliant | |
| RFC 3966 | The tel URI for Telephone Numbers | Compliant | |
| RFC 3986 | Uniform Resource Identifier (URI): Generic Syntax | Compliant | Obsoletes RFC 2396 . |
| RFC 4006 | Diameter Credit Control Application | Compliant | |



Table 2 IETF RFCs Specifications

| Specification | Title | Compliant | Comment |
|---------------|--|---------------------|--|
| RFC 4028 | Session Timers in the Session Initiation Protocol (SIP). | Compliant | |
| RFC 4032 | Update to the Session Initiation Protocol (SIP) Preconditions Framework | Compliant | |
| RFC 4122 | A Universally Unique Identifier (UUID) URN Namespace | Compliant | |
| RFC 4234 | Augmented BNF for Syntax Specifications: ABNF | Compliant | Obsoletes RFC 2234 . Made obsolete by RFC 5234 . |
| RFC 4240 | Basic Network Media Services with SIP | Compliant | |
| RFC 4244 | An Extension to the Session Initiation Protocol (SIP) for Request History Information | Compliant | |
| RFC 4265 | An INVITE-Initiated Dialog Event Package for the Session Initiation Protocol (SIP) | Compliant | |
| RFC 4320 | Actions Addressing Identified Issues with the Session Initiation Protocol's (SIP) Non-INVITE Transaction | Partially compliant | Suppression of 180 provisional response and 408 final response for non-INVITE requests is supported. |
| RFC 4353 | A Framework for Conferencing with the Session Initiation Protocol (SIP) | Compliant | |
| RFC 4412 | Communications Resource Priority for the Session Initiation Protocol (SIP) | Compliant | |
| RFC 4458 | Session Initiation Protocol (SIP) URIs for Applications such as Voicemail and Interactive Voice Response (IVR) | Partially compliant | IVR is not supported. |
| RFC 4480 | RPID: Rich Presence Extensions to the Presence Information Data Format (PIDF) | Compliant | |

Table 2 IETF RFCs Specifications

| Specification | Title | Compliant | Comment |
|---------------|--|---------------------|---|
| RFC 4511 | Lightweight Directory Access Protocol (LDAP): The Protocol | Compliant | |
| RFC 4514 | Lightweight Directory Access Protocol (LDAP): String Representation of Distinguished Names | Partially compliant | Distinguished names format is supported. |
| RFC 4538 | Request Authorization through Dialog Identification in the Session Initiation Protocol (SIP) | Partially compliant | The SCC AS only reads the Target-Dialog header for the SRVCC service. |
| RFC 4566 | SDP: Session Description Protocol | Compliant | Obsoletes RFC 2327 . |
| RFC 4575 | A Session Initiation Protocol (SIP) Event Package for Conference State | Compliant | |
| RFC 4579 | Session Initiation Protocol (SIP). Call Control – Conferencing for User Agents | Compliant | |
| RFC 4585 | Real-time Transmission Control Protocol (RTCP)-Based Feedback (RTP/AVPF) | Compliant | |
| RFC 4660 | Functional Description of Event Notification Filtering | Compliant | |
| RFC 4661 | An Extensible Markup Language (XML)-Based Format for Event Notification Filtering | Compliant | |
| RFC 4694 | Number Portability Parameters for the "tel" URI | Compliant | |
| RFC 4741 | NETCONF Configuration Protocol | Compliant | |
| RFC 4742 | Using the NETCONF Configuration Protocol over Secure Shell (SSH) | Compliant | |



Table 2 IETF RFCs Specifications

| Specification | Title | Compliant | Comment |
|---------------|--|-----------|--------------------------------------|
| RFC 4745 | Common Policy: A Document Format for Expressing Privacy Preferences | Compliant | |
| RFC 4769 | IANA Registration for an Enumservice Containing Public Switched Telephone Network (PSTN) Signaling Information | Compliant | |
| RFC 4825 | The Extensible Markup Language (XML) Configuration Access Protocol (XCAP) | Compliant | |
| RFC 4826 | Extensible Markup Language (XML) Formats for Representing Resource Lists | Compliant | |
| RFC 4967 | Dial String Parameter for the Session Initiation Protocol Uniform Resource Identifier | Compliant | |
| RFC 5009 | Private Header (P-Header) Extension to the Session Initiation Protocol (SIP) for Authorization of Early Media | Compliant | |
| RFC 5057 | Multiple Dialog uses in the Session Initiation Protocol | Compliant | |
| RFC 5079 | Rejecting Anonymous Requests in the Session Initiation Protocol (SIP) | Compliant | |
| RFC 5234 | Augmented BNF for Syntax Specifications: ABNF | Compliant | Obsoletes RFC 4234 . |
| RFC 5364 | Extensible Markup Language (XML) Format Extension for Representing Copy Control Attributes in Resource Lists | Compliant | |
| RFC 5366 | Conference Establishment Using Request-Contained Lists in the Session Initiation Protocol (SIP) | Compliant | |

Table 2 IETF RFCs Specifications

| Specification | Title | Compliant | Comment |
|---------------|---|---------------------|--|
| RFC 5502 | The SIP P-Served-User private header (P-Header) for the 3GPP IP Multimedia (IM) Core Network (CN) Subsystem | Compliant | |
| RFC 5552 | SIP Interface to VoiceXML Media Services | Partially compliant | Dual-Tone Multifrequency (DTMF) or voice invocation result is supported and handled as described in chapter 4.2 <i>SIP Mechanism</i> in the RFC 5552 . |
| RFC 5806 | Diversion Indication in SIP | Compliant | |
| RFC 6080 | A Framework for Session Initiation Protocol User Agent Profile Delivery | Compliant | |
| RFC 6086 | Session Initiation Protocol (SIP) INFO Method and Package Framework | Partially compliant | MTAS uses legacy mode. |
| RFC 6140 | Registration for Multiple Phone Numbers in the Session Initiation Protocol (SIP) | Compliant | ST AS supports PBX registrations with bulk number contacts. |
| RFC 6228 | Session Initiation Protocol (SIP) Response Code for Indication of Terminated Dialog | Compliant | |
| RFC 6665 | SIP-Specific Event Notification | Compliant | |
| RFC 6809 | Mechanism to Indicate Support of Features and Capabilities in the Session Initiation Protocol (SIP) | Compliant | Supported in reg event info XML. |
| RFC 6910 | Completion of Calls for the Session Initiation Protocol (SIP) | Compliant | In addition, MTAS understands format of parameters in NOTIFY body as specified in draft-ietf-bliss-call-completion-03. |



Table 2 IETF RFCs Specifications

| Specification | Title | Compliant | Comment |
|----------------------|---|---------------------|--|
| RFC 7254 | A Uniform Resource Name Namespace for the Global System for Mobile Communications Association (GSMA) and the International Mobile Station Equipment Identity (IMEI) | Compliant | |
| RFC 7255 | Using the International Mobile Station Equipment Identity (IMEI) Uniform Resource Name (URN) as an Instance ID | Compliant | |
| RFC 7316 | The Session Initiation Protocol (SIP) P-Private-Network-Indication Private-Header (P-Header) | Compliant | |
| RFC 7329 | A Session Identifier for the Session Initiation Protocol (SIP) | Compliant | Used for more than just fault tracing. |
| RFC 7339 | Session Initiation Protocol (SIP) Overload Control | Partially compliant | MTAS only act as reporting role |
| RFC 7462 | URNs for the Alert-Info Header Field of the Session Initiation Protocol (SIP)" | Compliant | |
| RFC 7463 | Shared Appearances of a Session Initiation Protocol (SIP) Address of Record (AOR) | Compliant | |

3.2.1 IETF Drafts

The compliance for each IETF draft, that is not yet a standard, is described in Table 3.

Table 3 IETF Drafts

| Title | Compliant | Comment |
|---------------------------------|------------------|----------------|
| draft-jones-sip-options-ping-02 | Compliant | |

3.3 ITU-T

The compliance for each specification is described in Table 4.

Table 4 ITU-T Specifications

| Specification | Title | Compliant | Comment |
|-----------------------------------|--|---------------------|---|
| ITU-T E.131 | Subscriber Control Procedures for Supplementary Telephone Services | Compliant | |
| ITU-T E.164 | The international public telecommunication numbering plan | Compliant | |
| ITU-T E.164 Complement, June 2000 | List of ITU-T Recommendation E.164 assigned Country Codes | Compliant | |
| ITU-T E.164/I.331 | The International Public Telecommunication Numbering Plan. 1997, E.164/I.331 (05/97) | Compliant | |
| ITU-T H.248.1 | Gateway Control Protocol: Version 2 with corrigendum 1IPv4 only, text encoding only | Compliant | |
| ITU-T H.248.4 | Gateway Control Protocol: Transport over Stream Control Transmission Protocol (SCTP) | Compliant | |
| ITU-T H.248.7 | Gateway Control Protocol: Generic Announcement package | Compliant | |
| ITU-T H.248.8 | Gateway Control Protocol: Error code and ServiceChange reason description | Partially compliant | Supported Media: The error codes and ServiceChange reasons MTAS use are defined here. |
| ITU-T H.248.9 | Gateway Control Protocol: Advanced media server packages | Compliant | |



Table 4 ITU-T Specifications

| Specification | Title | Compliant | Comment |
|---------------------------|---|---------------------|---|
| ITU-T H.248.9 Amendment 1 | Gateway Control Protocol: Advanced media server packages; Amendment 1: ASR, TTS, and multimedia enhancement | Compliant | |
| ITU-T H.248.10 | Gateway Control Protocol: Media gateway resource congestion handling package | Compliant | |
| ITU-T H.248.27 | Gateway Control Protocol: Supplemental tones packages | Compliant | |
| ITU-T H.248.36 | Gateway Control Protocol: Hanging Termination Detection package | Compliant | |
| ITU-T M.3100 | Generic network information model | Compliant | |
| ITU-T Q.713 | Signalling connection control part formats and codes | Compliant | |
| ITU-T Q.763 | Signalling System No.7 – ISDN User Part formats and codes | Partially compliant | Formats used by CAMEL Application Part (CAP) are supported. |
| ITU-T Q.850 | Use of cause and location in the Digital Subscriber Signalling System No. 1 and the Signalling System No.7 ISDN User Part | Compliant | |
| ITU-T Q.931 | ISDN User Network Interface Layer 3 specification for basic call control | Partially compliant | Formats used by CAP are supported. |
| ITU-T T.38 | Procedures for real-time Group 3 facsimile communication over IP Networks | Compliant | |

Table 4 ITU-T Specifications

| Specification | Title | Compliant | Comment |
|-----------------------------|---|------------------|----------------|
| ITU-T X.731 | Information Technology – Open Systems Interconnection – Systems Management: State Management Function | Compliant | |
| ITU-T X.733 | Alarm Reporting Function; Systems Management: Alarm reporting function | Compliant | |
| ITU-T X.736 | Information technology - Open Systems Interconnection - Systems Management: Security alarm reporting function | Compliant | |
| Annex to ITU OB 953-E, 2010 | | Compliant | |

3.4 ETSI/3GPP Services

The compliance for each specification is described in Table 5.

Table 5 ETSI/3GPP Services Specifications

| Specification | Title | Compliant | Comment |
|----------------------|--|------------------|--|
| ES 282 001 V1.1.1 | Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Functional Architecture Release 1 | Compliant | Interactions with SIP Application Servers take place through the Ut interface. |
| TS 102 333 V1.1.2 | Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Gate control protocol | Compliant | |



Table 5 ETSI/3GPP Services Specifications

| Specification | Title | Compliant | Comment |
|----------------------|---|---------------------|--|
| TS 24.182 V9.2.0 | 3rd Generation Partnership Project; Technical Specification Group Core Network and Terminals; IP Multimedia Subsystem (IMS) Customized Alerting Tones (CAT); Protocol specification (Release 9) | Partially compliant | Invocation of external CAT server and Gateway Model related signaling are supported. |
| TS 24.238 V11.2.0 | Session Initiation Protocol (SIP) based user configuration; Stage 3 | Compliant | Early announcement is used. |
| TS 24.239 V8.2.0 | Flexible Alerting (FA) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | Partially compliant | Ericsson Flexible Communication Distribution (FCD) service is similar in functionality, but has a different implementation. |
| TS 24.315 V11.1.0 | IP Multimedia Subsystem (IMS) Operator Determined Barring (ODB); Stage 3: protocol specification | Partially compliant | Barring of supplementary services configuration not supported. |
| TS 24.604 V8.17.0 | Communication Diversion (CDIV) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | Partially compliant | GRUU not supported. Adding a No-Reply timer only, is possible even if an XCAP rule already exists. FCD service is similar where only one or more of divert-primary, No-Reply timer or target-list can be added even if an XCAP rule already exists. |
| TS 24.605 V8.3.0 | Conference (CONF) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | Compliant | 3PTY service uses release 9. |
| TS 24.607 V8.2.0 | Originating Identification Presentation (OIP) and Originating Identification Restriction (OIR) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | Compliant | |

Table 5 ETSI/3GPP Services Specifications

| Specification | Title | Compliant | Comment |
|----------------------|--|---------------------|--|
| TS 24.608 V8.2.0 | Terminating Identification Presentation (TIP) and Terminating Identification Restriction (TIR) using IP Multimedia (IM)Core Network (CN) subsystem; Protocol specification | Compliant | |
| TS 24.610 V8.3.0 | Communication HOLD (HOLD) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | Compliant | |
| TS 24.611 V8.2.0 | Anonymous Communication Rejection (ACR) and Communication Barring (CB); using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | Compliant | |
| TS 24.615 V8.2.0 | Communication Waiting (CW) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | Compliant | |
| TS 24.616 V8.5.0 | Malicious Communication Identification (MCID) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | Partially compliant | Communication ended scenario for temporary mode is supported except for sip INFO methods for missing CLI and re-INVITE during communication. |
| TS 24.623 V8.4.0 | Extensible Markup Language (XML) Configuration Access Protocol (XCAP) over the Ut interface for Manipulating Supplementary Services | Partially compliant | xcap-diff event package not supported. |
| TS 24.628 V8.2.0 | Common Basic Communication procedures using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | Compliant | |
| TS 24.629 V8.3.0 | Explicit Communication Transfer (ECT) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | Compliant | Consultative ECT is supported - where leg to transfer target is active. 3pcc is used. |



Table 5 ETSI/3GPP Services Specifications

| Specification | Title | Compliant | Comment |
|-----------------------|--|---------------------|--|
| TS 24.642 V8.9.0 | Completion of Communications to Busy Subscriber (CCBS) Completion of Communications by No Reply (CCNR) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification | Compliant | See comment for RFC 6910 on Section 3.2 IETF RFCs on page 14. |
| TS 24.647 V8.1.0 | Advise of Charge (AoC) using IP Multimedia (IM) Core Network (CN) subsystem Protocol specification | Compliant | |
| TS 24.654 V8.6.0 | Closed User Group (CUG) using IP Multimedia (IM) Core Network (CN) subsystem, Protocol Specification | Partially compliant | MTAS supports terminating CUG. No support for default group. |
| TS 183 043 V.2.5.1 | Telecommunications and Internet Converged Services and Protocols for Advanced Networks (TISPAN); IMS-based PSTN/ISDN Emulation, Stage 3 specification, ETSI TS 183 043 v.2.5.1 (2011-02) | Partially compliant | The following are supported: <ul style="list-style-type: none"> • Advise of Charge • Feature access codes • Communication Waiting • Dial Tone Management • Service Code Command |
| TS 187 001 V1.1.1 | Telecommunications and Internet Converged Services and Protocols for Advanced Networking (TISPAN); NGN SECurity (SEC); Requirements | Not Applicable | |
| TS 187 003 V1.1.1 | Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Security; Security Architecture | Not Applicable | |

3.5 OMA

The compliance for each specification is described in Table 6.

Table 6 OMA Specifications

| Specification | Title | Compliant | Comment |
|--|---|-----------|---------|
| OMA-SUP-XSD_xdm_commonPolicy-V1_0_2-20070830-A | Common policy schema definition | Compliant | |
| OMA-TS-XDM_Core-V1_0-20051006-C | XML Document Management (XDM) Specification | Compliant | |

3.6 W3C

The compliance for each specification is described in Table 7.

Table 7 W3C Specifications

| Specification | Title | Compliant | Comment |
|---|---|-----------|---------|
| http://www.w3.org/TR/2008/REC-xml-20081126 | Extensible Markup Language (XML) 1.0 (Fifth Edition) | Compliant | |
| http://www.w3.org/TR/2001/REC-xml-c14n-20010315 | Canonical XML Version 1.0 | Compliant | |
| http://www.w3.org/TR/2000/NOTE-SOAP-20000508/ | Simple Object Access Protocol (SOAP) 1.1 | Compliant | |
| http://www.w3.org/TR/2001/NOTE-wsdl-20010315 | Web Services Description Language (WSDL) 1.1 | Compliant | |
| http://www.w3.org/TR/2004/REC-xml-infoset-20040204 | XML Information Set | Compliant | |
| http://www.w3.org/TR/1999/REC-xpath-19991116 | XML Path Language (XPath) Version 1.0 | Compliant | |
| http://www.w3.org/TR/2004/REC-xmlschema-0-20041028/ | XML schema Part 0: Primer Second Edition | Compliant | |
| http://www.w3.org/TR/2004/REC-xmlschema-1-20041028/ | XML schema Part 1: Structures Second Edition | Compliant | |
| http://www.w3.org/TR/2004/REC-xmlschema-2-20041028/ | XML schema Part 2: Datatypes Second Edition | Compliant | |
| http://www.w3.org/TR/2007/REC-voicexml20-20040316/ | Voice Extensible Markup Language (VoiceXML) 2.0 W3C Recommendation 16 March 2004 | Compliant | |
| http://www.w3.org/TR/xslt | XSL Transformations (XSLT) Version 1.0, 16 November 1999 | Compliant | |



3.7 GSM

The compliance for each specification is described in Table 8.

Table 8 GSM Specifications

| Specification | Title | Compliant | Comment |
|---------------|---|---------------------|--|
| GSM 12.11 | Fault management of the Base Station System (BSS) | Partially compliant | Used for alarmProbableCause in Ericsson Alarm IRP MIB and Ericsson Alarm PC MIB. |

3.8 Miscellaneous

The compliance for each specification is described in Table 9.

Table 9 Miscellaneous Specifications

| Specification | Title | Compliant | Comment |
|---|---|---------------------|---|
| ANSI X3.4-1986 | Coded Character Set –7-Bit American Standard Code for Information Interchange | Compliant | |
| ETSI ES 201 296 | Integrated Services Digital Network (ISDN); Signalling System No.7 (SS7); ISDN User Part (ISUP); Signalling aspects of charging | Partially compliant | Procedures after start of charge is supported. |
| ETSI ETS 300 738 | Human Factors (HF); Minimum Man–Machine Interface (MMI) to public network-based supplementary services | Partially compliant | Service code commands are supported. |
| GIR (Government Industry Requirements) Document | IMS Core Network GIR for National Security/Emergency Preparedness (NS/EP) Next Generation Network (NGN) Priority Services (Issue 2.0, January 2013) | Partially compliant | Resource-Priority Header in SIP responses not supported. PIN-Code not supported. |
| GSMA IR.92 V10..0 | IMS Profile for Voice and SMS | Partially compliant | UE must be configured. |

*Table 9 Miscellaneous Specifications*

| Specification | Title | Compliant | Comment |
|-------------------------------------|---|---------------------|---|
| GSMA IR.94 V11.0 | IMS Profile for Conversational Video Service | Partially compliant | Audio-Visual Profile with Feedback (AVPF) for Call Out Of the Blue is not supported. |
| IANA SDP-parameters | Session Description Protocol (SDP) Parameters | Compliant | |
| SIP Forum - SIPconnect 1.1 | SIP-PBX / Service Provider Interoperability | Partially Compliant | ST AS supports PBX interoperability and Business Trunking applications. Not supported applications: <ul style="list-style-type: none">• Call transfer |



4 Interfaces

This section describes the interfaces with which the MTAS is compliant.

4.1 MTAS Interfaces

The interfaces supported by the MTAS are described in the following documents:

- *ACR Storage in MTAS*
- *Diameter Communication Details in MTAS*
- *Diameter Offline Charging in MTAS*
- *Diameter Online Charging in MTAS*
- *ETSI MAP Support in MTAS*
- *MTAS CAI3G Interface*
- *MTAS CAI3G Interface for ST AS*
- *MTAS CAP Support*
- *MTAS, Communication Details, 3GPP R7 XML*
- *MTAS H.248 Support*
- *MTAS Interface to CAT-S (CAT)*
- *MTAS Interface to CSCF (ISC, Ma, Pw)*
- *MTAS Interface to MRF (Mr)*
- *MTAS, Offline Charging, 3GPP R7 MM XML*
- *MTAS, Offline Charging, 3GPP R9 MM XML*
- *MTAS, Online Charging, 3GPP R7 MM XML*
- *MTAS, Online Charging, 3GPP R9 MM XML*
- *MTAS, Offline Charging, 3GPP R12 MM XML*
- *MTAS, Online Charging, 3GPP R12 MM XML*
- *MTAS Ut Interface*
- *NameDb*



- *Parlay X in MMTEL*
- *Parlay X MMTel Extensions*
- *Sh/Dh Interface*

4.2 Common Component Interfaces

The interfaces supported by the MTAS are described in *IMS Common Components Initial Configuration and Managed Object Model (MOM)*.