

# ETSI TS 129 165 V15.13.0 (2021-08)



**Digital cellular telecommunications system (Phase 2+) (GSM);  
Universal Mobile Telecommunications System (UMTS);  
(standard, LTE, 5G;  
Inter-IMS Network to Network Interface (NNI)  
(3GPP TS 29.165 version 15.13.0 Release 15)**



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**Reference**

RTS/TSGC-0329165vfd0

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**Keywords**

5G,GSM,LTE,UMTS

**ETSI**

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# 1 Scope

The objective of this document is to address the Inter-IMS Network to Network Interface (II-NNI) consisting of Ici and Izi reference points between IMS networks in order to support end-to-end service interoperability.

The present document addresses the issues related to control plane signalling (3GPP usage of SIP and SDP protocols, required SIP header fields) as well as other interconnecting aspects like security, numbering/naming/addressing and user plane issues as transport protocol, media and codecs actually covered in a widespread set of 3GPP specifications. A profiling of the Inter-IMS Network to Network Interface (II-NNI) is also provided.

Charging aspects are addressed as far as SIP signalling is concerned.

IMS emergency session establishment between IMS networks is addressed as far as SIP signalling is concerned.

SIP signalling traversing the NNI between a CSCF and MRB, e.g. for media control or Voice Interworking with Enterprise IP-PBX, and SIP signalling traversing the NNI on the Mr interface between the CSCF and the MRFC, or on the Mr' interface between the AS and MRFC, or on the Rc interface between AS and MRB is not considered in the present release of this specification.

SIP signalling traversing the NNI between an application server and the remaining IMS functional entities (e.g. for MCPTT interface SIP-2 in figure 7.3.1-2 in 3GPP TS 23.280 [200]) is not considered in the present release of this specification.

SIP signalling traversing the NNI between an ISC gateway and an AS in an enterprise network, e.g. for media control and voice interworking with enterprise IP-PBX, on the ISC interface between the ISC gateway and the enterprise network is not considered in the present release of this specification.

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- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document in the same Release as the present document.

- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] IETF RFC 791: "Internet Protocol".
- [3] 3GPP TS 23.002: "Network architecture".
- [4] 3GPP TS 23.228: "IP Multimedia Subsystem (IMS); Stage 2".
- [5] 3GPP TS 24.229: "Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3".
- [6] 3GPP TR 24.930: "Signalling flows for the session setup in the IP Multimedia core network Subsystem (IMS) based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3".
- [7] IETF RFC 2460: "Internet Protocol, Version 6 (IPv6) Specification".
- [8] 3GPP TS 29.162: "Interworking between the IM CN subsystem and IP networks".
- [9] 3GPP TS 22.228: "Service requirements for the IP multimedia core network subsystem".
- [10] 3GPP TS 33.210: "3G security; Network Domain Security (NDS); IP network layer security".

- [11] 3GPP TS 26.114: "IP Multimedia Subsystem (IMS); Multimedia Telephony; Media handling and interaction".
- [12] ETSI TS 181 005 V1.1.1: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Services and Capabilities Requirements".
- [13] IETF RFC 3261: "SIP: Session Initiation Protocol".
- [14] IETF RFC 3966: "The tel URI for Telephone Numbers".
- [15] IETF RFC 3860: "Common Profile for Instant Messaging (CPIM)".
- [16] IETF RFC 3859: "Common Profile for Presence (CPP)".
- [17] IETF RFC 4975: "The Message Session Relay Protocol (MSRP)".
- [18] IETF RFC 3262: "Reliability of provisional responses in Session Initiation Protocol (SIP)".
- [19] IETF RFC 3428: "Session Initiation Protocol (SIP) Extension for Instant Messaging".
- [20] IETF RFC 6665: "SIP-Specific Event Notification".

NOTE: In earlier releases of this document the predecessor IETF RFC 3265 is used.

- [21] IETF RFC 3903: "An Event State Publication Extension to the Session Initiation Protocol (SIP)".
- [22] IETF RFC 3515: "The Session Initiation Protocol (SIP) REFER method".
- [23] IETF RFC 3311: "The Session Initiation Protocol (SIP) UPDATE method".
- [24] IETF RFC 7315: "Private Header (P-Header) Extensions to the Session Initiation Protocol (SIP) for the 3GPP".
- [24A] IETF RFC 7976: "Updates to Private Header (P-Header) Extension Usage in Session Initiation Protocol (SIP) Requests and Responses".
- [24B] IETF RFC 7913: "P-Access-Network-Info ABNF Update".
- [25] IETF RFC 7044: "An Extension to the Session Initiation Protocol (SIP) for Request History Information".
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