



Publicly Available Specification (PAS); A1 interface: General Aspects and Principles (O-RAN.WG2.A1GAP-R004-v04.00)

Document Preview

[ETSI TS 103 983 V4.0.0 \(2025-05\)](https://standards.iteh.ai/catalog/standards/etsi/784c6425-aadc-44ad-9bfb-631f6625a8/etsi-ts-103-983-v4-0-0-2025-05)

<https://standards.iteh.ai/catalog/standards/etsi/784c6425-aadc-44ad-9bfb-631f6625a8/etsi-ts-103-983-v4-0-0-2025-05>

CAUTION

The present document has been submitted to ETSI as a PAS produced by O-RAN-Alliance and approved by the ETSI Technical Committee Mobile Standards Group (MSG).

ETSI had been assigned all the relevant copyrights related to the document O-RAN.WG2.A1TP-R004-v03.03 on an "as is basis". Consequently, to the fullest extent permitted by law, ETSI disclaims all warranties whether express, implied, statutory or otherwise including but not limited to merchantability, non-infringement of any intellectual property rights of third parties. No warranty is given about the accuracy and the completeness of the content of the present document.

Reference

RTS/MSG-001163

Keywords

interface, PAS

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - APE 7112B
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° w061004871

Important notice

The present document can be downloaded from the
[ETSI Search & Browse Standards](#) application.

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format on [ETSI deliver](#) repository.

Users should be aware that the present document may be revised or have its status changed,
this information is available in the [Milestones listing](#).

If you find errors in the present document, please send your comments to
the relevant service listed under [Committee Support Staff](#).

If you find a security vulnerability in the present document, please report it through our
[Coordinated Vulnerability Disclosure \(CVD\)](#) program.

Notice of disclaimer & limitation of liability

The information provided in the present deliverable is directed solely to professionals who have the appropriate degree of experience to understand and interpret its content in accordance with generally accepted engineering or other professional standard and applicable regulations.

No recommendation as to products and services or vendors is made or should be implied.

No representation or warranty is made that this deliverable is technically accurate or sufficient or conforms to any law and/or governmental rule and/or regulation and further, no representation or warranty is made of merchantability or fitness for any particular purpose or against infringement of intellectual property rights.

In no event shall ETSI be held liable for loss of profits or any other incidental or consequential damages.

Any software contained in this deliverable is provided "AS IS" with no warranties, express or implied, including but not limited to, the warranties of merchantability, fitness for a particular purpose and non-infringement of intellectual property rights and ETSI shall not be held liable in any event for any damages whatsoever (including, without limitation, damages for loss of profits, business interruption, loss of information, or any other pecuniary loss) arising out of or related to the use of or inability to use the software.

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2025.
All rights reserved.

Contents

Intellectual Property Rights	5
Foreword.....	5
Modal verbs terminology.....	5
1 Scope	6
2 References	6
2.1 Normative references	6
2.2 Informative references.....	6
3 Definition of terms, symbols and abbreviations.....	7
3.1 Terms.....	7
3.2 Symbols.....	8
3.3 Abbreviations	8
4 General Aspects.....	8
4.1 A1 architecture	8
4.1.1 General.....	8
4.1.2 Role of A1 in the O-RAN architecture	9
4.1.3 A1 service architecture	9
4.1.3.1 A1 policy management service (A1-P)	9
4.1.3.2 A1 enrichment information service (A1-EI)	10
4.1.3.3 A1 ML model management service (A1-ML)	10
4.2 A1 interface general principles.....	10
4.3 A1 interface specification objectives.....	11
4.4 A1 interface capabilities	11
5 Functions of the A1 interface	11
5.1 Policy management	11
5.1.1 Introduction.....	11
5.1.2 The policy management function.....	12
5.1.3 Lifecycle aspects of A1 policies	12
5.1.4 Identification and scope of A1 policies.....	13
5.1.4.0 General	13
5.1.4.1 Identification of UEs.....	14
5.1.4.2 Identification of groups of UEs.....	14
5.1.4.3 Identification of slices	14
5.1.4.4 Identification of QoS flows	15
5.1.4.5 Identification of cells.....	15
5.1.5 A1 policy content.....	15
5.1.5.1 General	15
5.1.5.2 Policy objectives	15
5.1.5.3 Policy resources	15
5.2 A1 enrichment information	15
5.2.1 Introduction.....	15
5.2.2 The enrichment information function	16
5.2.3 Lifecycle aspects of A1 enrichment information	16
5.2.3.1 Registration of enrichment information source.....	16
5.2.3.2 Discovery of enrichment information	16
5.2.3.2.0 General	16
5.2.3.2.1 Lifecycle aspects of EI types	16
5.2.3.3 Request and Delivery of enrichment information	16
5.2.3.3.0 General	16
5.2.3.3.1 Lifecycle aspects of EI jobs.....	17
5.2.3.3.2 Lifecycle aspects of EI job results	17
5.2.4 Identification of A1 enrichment information	17
5.2.5 A1 enrichment information format and delivery	17
5.2.5.1 Push based delivery.....	17

6	Signalling procedures of the A1 interface	17
6.1	General	17
6.2	Policy related procedures	18
6.3	Enrichment information transfer procedures	18
6.4	ML model related procedures.....	18
7	A1 interface protocol structure	19
8	Other A1 interface specifications	19
8.1	A1 TS-family overview.....	19
8.2	A1 interface: Use Cases and Requirements.....	20
8.3	A1 interface: Transport Protocol.....	20
8.4	A1 interface: Application Protocol.....	20
8.5	A1 interface: Type Definitions.....	20
8.6	A1 interface: Test Specification	20
Annex A (informative): Change history		21
History		22

i T h S t a n d a r d s
(h t t p s : / / s t a n d a r d s . i t
D o c u m e n t a t i o n

E T S I 1 0 3 9 8 3 V 4 . 0 . 0 (2 0 2 5 - 0 5)
h t t p s : / / s t a n d a r d s . i t e h . a i / c a t a l o g / s t a n