



SLOVENSKI STANDARD

SIST EN ISO/IEC 15408-3:2020

01-maj-2020

**Informacijska tehnologija - Varnostne tehnike - Merila za vrednotenje varnosti IT -
3. del: Komponente za zagotavljanje varnosti (ISO/IEC 15408-3:2008, popravljena
različica 2011-05)**

Information technology - Security techniques - Evaluation criteria for IT security - Part 3:
Security assurance components (ISO/IEC 15408-3:2008, Corrected version 2011-05)

iTeh STANDARD PREVIEW

Informationstechnik - IT-Sicherheitsverfahren - Evaluationskriterien für IT-Sicherheit - Teil
3: Komponenten zur Sicherheitskontrolle (ISO/IEC 15408-3:2008, korrigierte Fassung
2011-05)

SIST EN ISO/IEC 15408-3:2020

<https://standards.iteh.si/catalog/standard/sist/0/ef8337-3eb5-4491-8321>
Technologies de l'information - Techniques de sécurité - Critères d'évaluation pour la
sécurité TI - Partie 3: Composants d'assurance de sécurité (ISO/IEC 15408-3:2008,
Version corrigée 2011-05)

Ta slovenski standard je istoveten z: EN ISO/IEC 15408-3:2020

ICS:

35.030 Informacijska varnost IT Security

SIST EN ISO/IEC 15408-3:2020 en,fr,de

**EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM**

EN ISO/IEC 15408-3

March 2020

ICS 35.030

English version

Information technology - Security techniques - Evaluation criteria for IT security - Part 3: Security assurance components (ISO/IEC 15408-3:2008, Corrected version 2011-05)

Technologies de l'information - Techniques de sécurité - Critères d'évaluation pour la sécurité TI - Partie 3: Composants d'assurance de sécurité (ISO/IEC 15408-3:2008, Version corrigée 2011-05)

Informationstechnik - IT-Sicherheitsverfahren - Evaluationskriterien für IT-Sicherheit - Teil 3: Komponenten zur Sicherheitskontrolle (ISO/IEC 15408-3:2008, korrigierte Fassung 2011-05)

This European Standard was approved by CEN on 2 March 2020.

This European Standard was corrected and reissued by the CEN-CENELEC Management Centre on 28 April 2021.

CEN and CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN and CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN and CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions. *iec-15408-3-2020*

CEN and CENELEC members are the national standards bodies and national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



**CEN-CENELEC Management Centre:
Rue de la Science 23, B-1040 Brussels**

Contents	Page
European foreword.....	3

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO/IEC 15408-3:2020](#)

<https://standards.iteh.ai/catalog/standards/sist/0cef8337-3eb5-4491-8331-28b64ea2b4a2/sist-en-iso-iec-15408-3-2020>

European foreword

The text of ISO/IEC 15408-3:2008, Corrected version 2011-05 has been prepared by Technical Committee ISO/IEC JTC 1 "Information technology" of the International Organization for Standardization (ISO) and has been taken over as EN ISO/IEC 15408-3:2020 by Technical Committee CEN/CLC/JTC 13 "Cybersecurity and Data Protection" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2020, and conflicting national standards shall be withdrawn at the latest by September 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

iTeh STANDARD PREVIEW

Endorsement notice

The text of ISO/IEC 15408-3:2008, Corrected version 2011-05 has been approved by CEN as EN ISO/IEC 15408-3:2020 without any modification.

[SIST EN ISO/IEC 15408-3:2020](#)

<https://standards.iteh.ai/catalog/standards/sist/0cef8337-3eb5-4491-8331-28b64ea2b4a2/sist-en-iso-iec-15408-3-2020>

INTERNATIONAL STANDARD

**ISO/IEC
15408-3**

Third edition
2008-08-15

Corrected version
2011-06-01

Information technology Security techniques — Evaluation criteria for IT security —

Part 3: Security assurance components

iTeh STANDARD REVIEW
Technologies de l'information — Techniques de sécurité — Critères
d'évaluation pour la sécurité TI —
(standards.iteh.ai)
Partie 3: Composants d'assurance de sécurité

SIST EN ISO/IEC 15408-3:2020

[https://standards.iteh.ai/catalog/standards/sist/0cef8337-3eb5-4491-8331-
28b64ea2b4a2/sist-en-iso-iec-15408-3-2020](https://standards.iteh.ai/catalog/standards/sist/0cef8337-3eb5-4491-8331-28b64ea2b4a2/sist-en-iso-iec-15408-3-2020)

Reference number
ISO/IEC 15408-3:2008(E)



© ISO/IEC 2008

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO/IEC 15408-3:2020](#)

<https://standards.iteh.ai/catalog/standards/sist/0cef8337-3eb5-4491-8331-28b64ea2b4a2/sist-en-iso-iec-15408-3-2020>



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2008

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

	Page
Foreword	ix
Introduction.....	xi
1 Scope	1
2 Normative references.....	1
3 Terms and definitions, symbols and abbreviated terms.....	1
4 Overview.....	1
4.1 Organisation of this part of ISO/IEC 15408	1
5 Assurance paradigm	2
5.1 ISO/IEC 15408 philosophy	2
5.2 Assurance approach	2
5.2.1 Significance of vulnerabilities.....	2
5.2.2 Cause of vulnerabilities	3
5.2.3 ISO/IEC 15408 assurance.....	3
5.2.4 Assurance through evaluation.....	3
5.3 ISO/IEC 15408 evaluation assurance scale.....	3
6 Security assurance components	4
6.1 Security assurance classes, families and components structure	4
6.1.1 Assurance class structure.....	4
6.1.2 Assurance family structure	5
6.1.3 Assurance component structure	6
6.1.4 Assurance elements.....	8
6.1.5 Component taxonomy.....	8
6.2 EAL structure.....	9
6.2.1 EAL name	9
6.2.2 Objectives	9
6.2.3 Application notes	9
6.2.4 Assurance components.....	10
6.2.5 Relationship between assurances and assurance levels	10
6.3 CAP structure	11
6.3.1 CAP name.....	11
6.3.2 Objectives	11
6.3.3 Application notes	11
6.3.4 Assurance components.....	12
6.3.5 Relationship between assurances and assurance levels	13
7 Evaluation assurance levels	13
7.1 Evaluation assurance level (EAL) overview	14
7.2 Evaluation assurance level details	15
7.3 Evaluation assurance level 1 (EAL1) - functionally tested.....	15
7.3.1 Objectives	15
7.3.2 Assurance components.....	16
7.4 Evaluation assurance level 2 (EAL2) - structurally tested	16
7.4.1 Objectives	16
7.4.2 Assurance components.....	16
7.5 Evaluation assurance level 3 (EAL3) - methodically tested and checked.....	17
7.5.1 Objectives	17
7.5.2 Assurance components.....	17
7.6 Evaluation assurance level 4 (EAL4) - methodically designed, tested, and reviewed.....	18
7.6.1 Objectives	18
7.6.2 Assurance components.....	18

7.7	Evaluation assurance level 5 (EAL5) - semiformally designed and tested	19
7.7.1	Objectives.....	19
7.7.2	Assurance components	19
7.8	Evaluation assurance level 6 (EAL6) - semiformally verified design and tested.....	20
7.8.1	Objectives.....	20
7.8.2	Assurance components	20
7.9	Evaluation assurance level 7 (EAL7) - formally verified design and tested.....	21
7.9.1	Objectives.....	21
7.9.2	Assurance components	22
8	Composed assurance packages	23
8.1	Composed assurance package (CAP) overview	23
8.2	Composed assurance package details	24
8.3	Composition assurance level A (CAP-A) - Structurally composed	24
8.3.1	Objectives.....	24
8.3.2	Assurance components	24
8.4	Composition assurance level B (CAP-B) - Methodically composed	25
8.4.1	Objectives.....	25
8.4.2	Assurance components	25
8.5	Composition assurance level C (CAP-C) - Methodically composed, tested and reviewed	26
8.5.1	Objectives.....	26
8.5.2	Assurance components	26
9	Class APE: Protection Profile evaluation.....	27
9.1	PP introduction (APE_INT)	28
9.1.1	Objectives.....	28
9.1.2	APE_INT.1 PP introduction.....	28
9.2	Conformance claims (APE_CCL)	29
9.2.1	Objectives.....	29
9.2.2	APE_CCL.1 Conformance claims.....	29
9.3	Security problem definition (APE_SPD).....	31
9.3.1	Objectives.....	31
9.3.2	APE_SPD.1 Security problem definition	31
9.4	Security objectives (APE_OBJ).....	31
9.4.1	Objectives.....	31
9.4.2	Component levelling	32
9.4.3	APE_OBJ.1 Security objectives for the operational environment.....	32
9.4.4	APE_OBJ.2 Security objectives	32
9.5	Extended components definition (APE_ECD)	33
9.5.1	Objectives.....	33
9.5.2	APE_ECD.1 Extended components definition	33
9.6	Security requirements (APE_REQ)	34
9.6.1	Objectives.....	34
9.6.2	Component levelling	34
9.6.3	APE_REQ.1 Stated security requirements	34
9.6.4	APE_REQ.2 Derived security requirements	35
10	Class ASE: Security Target evaluation.....	36
10.1	ST introduction (ASE_INT).....	37
10.1.1	Objectives.....	37
10.1.2	ASE_INT.1 ST introduction	37
10.2	Conformance claims (ASE_CCL)	38
10.2.1	Objectives.....	38
10.2.2	ASE_CCL.1 Conformance claims.....	38
10.3	Security problem definition (ASE_SPD)	40
10.3.1	Objectives.....	40
10.3.2	ASE_SPD.1 Security problem definition	40
10.4	Security objectives (ASE_OBJ).....	41
10.4.1	Objectives.....	41
10.4.2	Component levelling	41
10.4.3	ASE_OBJ.1 Security objectives for the operational environment.....	41

10.4.4	ASE_OBJ.2 Security objectives	41
10.5	Extended components definition (ASE_ECD)	42
10.5.1	Objectives	42
10.5.2	ASE_ECD.1 Extended components definition.....	42
10.6	Security requirements (ASE_REQ)	43
10.6.1	Objectives	43
10.6.2	Component levelling	43
10.6.3	ASE_REQ.1 Stated security requirements.....	44
10.6.4	ASE_REQ.2 Derived security requirements	44
10.7	TOE summary specification (ASE_TSS)	46
10.7.1	Objectives	46
10.7.2	Component levelling	46
10.7.3	ASE_TSS.1 TOE summary specification.....	46
10.7.4	ASE_TSS.2 TOE summary specification with architectural design summary	47
11	Class ADV: Development.....	48
11.1	Security Architecture (ADV_ARC)	52
11.1.1	Objectives	52
11.1.2	Component levelling	52
11.1.3	Application notes	52
11.1.4	ADV_ARC.1 Security architecture description.....	53
11.2	Functional specification (ADV_FSP)	54
11.2.1	Objectives	54
11.2.2	Component levelling	54
11.2.3	Application notes	54
11.2.4	ADV_FSP.1 Basic functional specification	56
11.2.5	ADV_FSP.2 Security-enforcing functional specification.....	57
11.2.6	ADV_FSP.3 Functional specification with complete summary	58
11.2.7	ADV_FSP.4 Complete functional specification	59
11.2.8	ADV_FSP.5 Complete semi-formal functional specification with additional error information.....	60
11.2.9	ADV_FSP.6 Complete semi-formal functional specification with additional formal specification.....	61
11.3	Implementation representation (ADV_IMP)	63
11.3.1	Objectives	63
11.3.2	Component levelling	63
11.3.3	Application notes	63
11.3.4	ADV_IMP.1 Implementation representation of the TSF	64
11.3.5	ADV_IMP.2 Complete mapping of the implementation representation of the TSF.....	64
11.4	TSF internals (ADV_INT)	65
11.4.1	Objectives	65
11.4.2	Component levelling	65
11.4.3	Application notes	65
11.4.4	ADV_INT.1 Well-structured subset of TSF internals.....	66
11.4.5	ADV_INT.2 Well-structured internals.....	67
11.4.6	ADV_INT.3 Minimally complex internals	68
11.5	Security policy modelling (ADV_SPM)	69
11.5.1	Objectives	69
11.5.2	Component levelling	69
11.5.3	Application notes	69
11.5.4	ADV_SPM.1 Formal TOE security policy model.....	70
11.6	TOE design (ADV_TDS)	71
11.6.1	Objectives	71
11.6.2	Component levelling	71
11.6.3	Application notes	71
11.6.4	ADV_TDS.1 Basic design.....	72
11.6.5	ADV_TDS.2 Architectural design	73
11.6.6	ADV_TDS.3 Basic modular design	74
11.6.7	ADV_TDS.4 Semiformal modular design	76
11.6.8	ADV_TDS.5 Complete semiformal modular design	77

11.6.9 ADV_TDS.6 Complete semiformal modular design with formal high-level design presentation	78
12 Class AGD: Guidance documents	80
12.1 Operational user guidance (AGD_OPE)	80
12.1.1 Objectives	80
12.1.2 Component levelling	81
12.1.3 Application notes	81
12.1.4 AGD_OPE.1 Operational user guidance	81
12.2 Preparative procedures (AGD_PRE)	82
12.2.1 Objectives	82
12.2.2 Component levelling	82
12.2.3 Application notes	82
12.2.4 AGD_PRE.1 Preparative procedures	83
13 Class ALC: Life-cycle support	83
13.1 CM capabilities (ALC_CMC)	84
13.1.1 Objectives	84
13.1.2 Component levelling	85
13.1.3 Application notes	85
13.1.4 ALC_CMC.1 Labelling of the TOE	85
13.1.5 ALC_CMC.2 Use of a CM system	86
13.1.6 ALC_CMC.3 Authorisation controls	87
13.1.7 ALC_CMC.4 Production support, acceptance procedures and automation	88
13.1.8 ALC_CMC.5 Advanced support	90
13.2 CM scope (ALC_CMS)	92
13.2.1 Objectives	92
13.2.2 Component levelling	93
13.2.3 Application notes	93
13.2.4 ALC_CMS.1 TOE CM coverage	93
13.2.5 ALC_CMS.2 Parts of the TOE CM coverage	93
13.2.6 ALC_CMS.3 Implementation representation CM coverage	94
13.2.7 ALC_CMS.4 Problem tracking CM coverage	95
13.2.8 ALC_CMS.5 Development tools CM coverage	96
13.3 Delivery (ALC_DEL)	97
13.3.1 Objectives	97
13.3.2 Component levelling	97
13.3.3 Application notes	97
13.3.4 ALC_DEL.1 Delivery procedures	98
13.4 Development security (ALC_DVS)	98
13.4.1 Objectives	98
13.4.2 Component levelling	98
13.4.3 Application notes	98
13.4.4 ALC_DVS.1 Identification of security measures	99
13.4.5 ALC_DVS.2 Sufficiency of security measures	99
13.5 Flaw remediation (ALC_FLR)	100
13.5.1 Objectives	100
13.5.2 Component levelling	100
13.5.3 Application notes	100
13.5.4 ALC_FLR.1 Basic flaw remediation	100
13.5.5 ALC_FLR.2 Flaw reporting procedures	101
13.5.6 ALC_FLR.3 Systematic flaw remediation	102
13.6 Life-cycle definition (ALC_LCD)	104
13.6.1 Objectives	104
13.6.2 Component levelling	104
13.6.3 Application notes	104
13.6.4 ALC_LCD.1 Developer defined life-cycle model	105
13.6.5 ALC_LCD.2 Measurable life-cycle model	106
13.7 Tools and techniques (ALC_TAT)	106
13.7.1 Objectives	106
13.7.2 Component levelling	107

13.7.3	Application notes	107
13.7.4	ALC_TAT.1 Well-defined development tools.....	107
13.7.5	ALC_TAT.2 Compliance with implementation standards	108
13.7.6	ALC_TAT.3 Compliance with implementation standards - all parts	108
14	Class ATE: Tests	109
14.1	Coverage (ATE_COV).....	110
14.1.1	Objectives	110
14.1.2	Component levelling	110
14.1.3	Application notes	110
14.1.4	ATE_COV.1 Evidence of coverage	110
14.1.5	ATE_COV.2 Analysis of coverage	111
14.1.6	ATE_COV.3 Rigorous analysis of coverage	112
14.2	Depth (ATE_DPT).....	112
14.2.1	Objectives	112
14.2.2	Component levelling	113
14.2.3	Application notes	113
14.2.4	ATE_DPT.1 Testing: basic design	113
14.2.5	ATE_DPT.2 Testing: security enforcing modules.....	114
14.2.6	ATE_DPT.3 Testing: modular design	114
14.2.7	ATE_DPT.4 Testing: implementation representation	115
14.3	Functional tests (ATE_FUN).....	116
14.3.1	Objectives	116
14.3.2	Component levelling	116
14.3.3	Application notes	116
14.3.4	ATE_FUN.1 Functional testing	117
14.3.5	ATE_FUN.2 Ordered functional testing.....	117
14.4	Independent testing (ATE_IND)	118
14.4.1	Objectives	118
14.4.2	Component levelling	118
14.4.3	Application notes	119
14.4.4	ATE_IND.1 Independent testing - conformance	119
14.4.5	ATE_IND.2 Independent testing - sample	120
14.4.6	ATE_IND.3 Independent testing - complete	121
15	Class AVA: Vulnerability assessment.....	122
15.1	Application notes	122
15.2	Vulnerability analysis (AVA_VAN)	123
15.2.1	Objectives	123
15.2.2	Component levelling	123
15.2.3	AVA_VAN.1 Vulnerability survey	123
15.2.4	AVA_VAN.2 Vulnerability analysis	124
15.2.5	AVA_VAN.3 Focused vulnerability analysis	125
15.2.6	AVA_VAN.4 Methodical vulnerability analysis	126
15.2.7	AVA_VAN.5 Advanced methodical vulnerability analysis	127
16	Class ACO: Composition	128
16.1	Composition rationale (ACO_COR)	130
16.1.1	Objectives	130
16.1.2	Component levelling	130
16.1.3	ACO_COR.1 Composition rationale	131
16.2	Development evidence (ACO_DEV).....	131
16.2.1	Objectives	131
16.2.2	Component levelling	131
16.2.3	Application notes	131
16.2.4	ACO_DEV.1 Functional Description	132
16.2.5	ACO_DEV.2 Basic evidence of design	132
16.2.6	ACO_DEV.3 Detailed evidence of design.....	133
16.3	Reliance of dependent component (ACO_REL)	134
16.3.1	Objectives	134
16.3.2	Component levelling	135

16.3.3 Application notes.....	135
16.3.4 ACO_REL.1 Basic reliance information	135
16.3.5 ACO_REL.2 Reliance information	136
16.4 Composed TOE testing (ACO_CTT).....	136
16.4.1 Objectives.....	136
16.4.2 Component levelling	136
16.4.3 Application notes.....	136
16.4.4 ACO_CTT.1 Interface testing	137
16.4.5 ACO_CTT.2 Rigorous interface testing	138
16.5 Composition vulnerability analysis (ACO_VUL).....	139
16.5.1 Objectives.....	139
16.5.2 Component levelling	139
16.5.3 Application notes.....	140
16.5.4 ACO_VUL.1 Composition vulnerability review	140
16.5.5 ACO_VUL.2 Composition vulnerability analysis	141
16.5.6 ACO_VUL.3 Enhanced-Basic Composition vulnerability analysis.....	141
Annex A (informative) Development (ADV).....	143
A.1 ADV_ARC: Supplementary material on security architectures	143
A.1.1 Security architecture properties	143
A.1.2 Security architecture descriptions.....	144
A.2 ADV_FSP: Supplementary material on TSFIs	146
A.2.1 Determining the TSFI.....	146
A.2.2 Example: A complex DBMS	148
A.2.3 Example Functional Specification	149
A.3 ADV_INT: Supplementary material on TSF internals	151
A.3.1 Structure of procedural software	151
A.3.2 Complexity of procedural software.....	153
A.4 ADV_TDS: Subsystems and Modules.....	154
A.4.1 Subsystems	154
A.4.2 Modules	155
A.4.3 Levelling Approach.....	157
A.5 Supplementary material on formal methods	159
Annex B (informative) Composition (ACO).....	161
B.1 Necessity for composed TOE evaluations	161
B.2 Performing Security Target evaluation for a composed TOE	162
B.3 Interactions between composed IT entities	163
Annex C (informative) Cross reference of assurance component dependencies.....	168
Annex D (informative) Cross reference of PPs and assurance components.....	172
Annex E (informative) Cross reference of EALs and assurance components	173
Annex F (informative) Cross reference of CAPs and assurance components	174

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 15408-3 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 27, *IT Security techniques*. The identical text of ISO/IEC 15408 is published by the Common Criteria Project Sponsoring Organisations as Common Criteria for Information Technology Security Evaluation. The common XML source for both publications can be found at <http://www.oc.ccn.cni.es/xml>

This third edition cancels and replaces the second edition (ISO/IEC 15408-3:2005), which has been technically revised.

ISO/IEC 15408 consists of the following parts, under the general title *Information technology — Security techniques — Evaluation criteria for IT security*:

- *Part 1: Introduction and general model*
- *Part 2: Security functional components*
- *Part 3: Security assurance components*

This corrected version of ISO/IEC 15408-3:2008 incorporates miscellaneous editorial corrections mainly related to EAL4 and EAL6 assurance components, ADV_FSP, ADV_TDS, ATE_DPT.2, ATE_IND, and ALC.