

# ISO/IEC 29115:2013-04 (E)

## Information technology - Security techniques - Entity authentication assurance framework

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
Introduction.....		v
1	<b>Scope</b> .....	1
2	<b>Normative references</b> .....	1
2.1	<b>Identical Recommendations   International Standards</b> .....	1
2.2	<b>Paired Recommendations   International Standards</b> .....	1
2.3	<b>Additional references</b> .....	1
3	<b>Terms and definitions</b> .....	1
4	<b>Abbreviations</b> .....	5
5	<b>Conventions</b> .....	6
6	<b>Levels of assurance</b> .....	6
6.1	<b>Level of assurance 1 (LoA1)</b> .....	7
6.2	<b>Level of assurance 2 (LoA2)</b> .....	7
6.3	<b>Level of assurance 3 (LoA3)</b> .....	7
6.4	<b>Level of assurance 4 (LoA4)</b> .....	8
6.5	<b>Selecting the appropriate level of assurance</b> .....	8
6.6	<b>LoA mapping and interoperability</b> .....	9
6.7	<b>Exchanging authentication results based on the 4 LoAs</b> .....	10
7	<b>Actors</b> .....	10
7.1	<b>Entity</b> .....	10
7.2	<b>Credential service provider</b> .....	10
7.3	<b>Registration authority</b> .....	11
7.4	<b>Relying party</b> .....	11
7.5	<b>Verifier</b> .....	11
7.6	<b>Trusted third party</b> .....	11
8	<b>Entity authentication assurance framework phases</b> .....	11
8.1	<b>Enrolment phase</b> .....	12
8.2	<b>Credential management phase</b> .....	14
8.3	<b>Entity authentication phase</b> .....	16
9	<b>Management and organizational considerations</b> .....	16
9.1	<b>Service establishment</b> .....	17
9.2	<b>Legal and contractual compliance</b> .....	17
9.3	<b>Financial provisions</b> .....	17
9.4	<b>Information security management and audit</b> .....	17
9.5	<b>External service components</b> .....	17
9.6	<b>Operational infrastructure</b> .....	18
9.7	<b>Measuring operational capabilities</b> .....	18
10	<b>Threats and controls</b> .....	18
10.1	<b>Threats to, and controls for, the enrolment phase</b> .....	18
10.2	<b>Threats to, and controls for, the credential management phase</b> .....	21
10.3	<b>Threats to, and controls for, the authentication phase</b> .....	26
11	<b>Service assurance criteria</b> .....	30
<b>Annex A (informative) Privacy and protection of PII</b> .....		31
<b>Annex B (informative) Characteristics of a credential</b> .....		33
<b>Bibliography</b> .....		35