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2 **Identity Ecosystem Steering Group, Inc.**

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IDESG Standards Adoption Policy

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Version 1.0

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12/16/2014

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VERSION HISTORY

Version #	Implemented By	Revision Date	Approved By	Approval Date	Reason
#2	Clark	May 2013			
#3	Tilton	October 2013			
#4	Clark	November 2013			
#5	Clark	March 2014			
#6 "1.0d1"	Clark	April 2014			
#7 "1.0d2"	Clark/Tilton	May 2014			
#8 "1.0d8"	Drafting Comm	June 2014			
#9 "1.0d9"	SCC	June 2014	SCC		(Version sent for IDESG Committee review)
1.0d10	Clark	August 2014			
1.0d11	SCC/Clark	September 2014	SCC		Based on 9/25 completed comments disposition log
1.0d12	Tilton	October 2014			Correction to Fig2, previously approved

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TABLE OF CONTENTS

16 **1. INTRODUCTION4**

17 1.1 Role of standards within the IDESG4

18 1.2 Open standards.....5

19 1.3 IDESG Standards Registry.....5

20 1.4 Standards vs. specifications6

21 1.5 Profiles and portions of standards.....6

22 **2 POLICY STATEMENTS7**

23 2.1 IDESG/SCC is not a Standards Developer.....7

24 2.2 IDESG/SCC will work with Standards Developers to promote standards availability.7

25 2.3 IDESG will establish suitability criteria for standards adoption.....7

26 2.4 SCC will oversee standards adoption.....8

27 2.5 SCC will be the primary point of Standards Developer liaison.8

28 2.6 Significance of Adoption Process.....8

29 **3. STANDARDS ADOPTION PROCESS.....9**

30 3.1 Process flow.....9

31 3.1.1 Gap identification10

32 3.1.2 Standards Developer selection.....11

33 3.2 Standards adoption life cycle12

34 3.2.1 Standards Inventory12

35 3.2.2 Standards Revision and Development13

36 3.2.3 Standards Nomination.....13

37 3.2.4 Standards Review13

38 3.2.5 SCC Recommended/Submitted Standards for IDESG Approval.....13

39 3.3. Roles and responsibilities13

40 3.3.2 IDESG Committees.....14

41 3.3.3 Standards Developers.....14

42 **4 STANDARDS CRITERIA15**

43 4.1 Common Principles15

44 4.2 Primary characteristics15

45 4.3 Requirements derived from the primary characteristics.....17

46 **APPENDIX A: REFERENCES.....18**

47 **APPENDIX B: KEY TERMS19**

49

48

50 **1. Introduction**

51 **1.1 Role of standards within the IDESG**

52

53 The Rules of Association¹ of the Identity Ecosystem Steering Group (IDESG) state that “The
54 purpose of the IDESG shall be to develop and administer the process for policy and technical
55 standards development for the Identity Ecosystem Framework.” It further states that:

56

- 57 • “The IDESG shall not itself be a standards development body, but rather an organization
58 that promotes the development of standards by other existing standards development
59 organizations and develops policies that serve to accelerate the development and
60 adoption of the Identity Ecosystem.”ⁱ

61

62 The first activity within the scope of the IDESG is identified as:

63

- 64 • “Promote and Adopt Standards. The IDESG shall establish forums and procedures to
65 review applicable standards and adopt those that support achievement of the NSTIC
66 vision, conform to the Guiding Principles, and meet other established requirements.
67 Additionally, the IDESG shall
 - 68 ○ recommend standards be established when gaps are identified; and,
 - 69 ○ advocate for standards to be established and adopted in a timely manner and be
70 sufficient to keep pace with emerging technology and market trends.”

71

72 Adopted standards form part of the Identity Ecosystem Framework, inform the work of the
73 IDESG committees, and will be relied upon as part of the Trustmark program. “The IDESG shall
74 encourage harmonization of standards and policies and shall always strive to recognize the
75 impacts of policy and standards on all stakeholders in the Identity Ecosystem.”²

76

77 The IDESG Plenary will review, recommend, approve and adopt “standards related to the
78 development and governance of the Identity Ecosystem.” The IDESG Management Council shall
79 “Review proposals for the standards, policies, and other components of the Identity Ecosystem
80 Framework prior to consideration by the Plenary.”

81

82 It is the purpose of this Standards Adoption Policy to define the policies and processes by which
83 standards are adopted into the Identity Ecosystem Framework.

84

¹ *Rules of Association of the Identity Ecosystem Steering Group (IDESG)*, Revised April 10, 2013,
<https://www.idecosystem.org/ROA>.

² Ibid.

85 **1.2 Open standards**

86 The White House NSTIC (the "National Strategy") promotes the adoption of existing, open
87 standards to ensure the privacy, security, and interoperability of data interfaces and use in the
88 identity ecosystem. In addition where new standards may be needed, the NSTIC strategy
89 promotes non-proprietary, international, and industry-led standards development efforts. As
90 noted in the National Strategy, and multiple prior governmental directives and best practices,
91 widespread adoption and success for identity ecosystems depends on voluntary participation
92 and widely-available, cost-effective methodologies.

93

94 While some identity ecologies may have their own satisfactory proprietary or closed methods,
95 the NSTIC open and scalable ecosystem concept depends on the ability of large groups of
96 enterprises, institutions and individuals to federate and conduct interactions regarding identity
97 data, voluntarily, with confidence that they will be able to use their own systems and methods,
98 within their own environment, while confidently relying on identity data interactions with each
99 other across organizational boundaries by means of stable, vendor-neutral methods with well-
100 declared meanings.

101

102 That requirement of open accessibility to newcomers, in "openly federating" systems, generally
103 can be addressed by the criteria for open standards use that are pervasive in US public policy.
104 "Voluntary consensus standards" use is preferred, as a policy matter, because those methods
105 are:

- 106 • Neutral as to vendors, and more accessible by DIY implementers. The transparency and
107 quality generated in an open standards process generally results in higher quality, and
108 methods less tied to the peculiarities of any one offering. These requirements also help
109 address competition law issues, so that a government policy is not seen to favor a
110 specific supplier.
- 111 • Open accessibility of a system to any implementer, regardless of system or software, also
112 enhances positive network scale effects, by making it easier for newcomers to federate
113 and transact without high switching costs. When a higher volume of transactions is
114 enabled, this also can result in cost savings from the creation and marketing of common
115 interfaces, tools and service providers.

116 **1.3 IDESG Standards Registry**

117 The corpus of standards adopted by the IDESG as part of the Identity Ecosystem Framework is
118 contained within the IDESG Standards Registry. This registry shall list all standards that have
119 been approved for adoption by the IDESG plenary, along with metadata about each such
120 standard. Section 3 describes the process through which adoption occurs.

121

122 IDESG also maintains an informal web resource, uncritically listing all known standards,
123 specifications and similar guidance, related to identity management and NSTIC's domain, of
124 which the IDESG is made aware. That wiki-based resource is intended to serve as a finding tool;
125 inclusion of an artifact there is not as an evaluative statement.

126

127 **1.4 Standards vs. specifications**

128 In the course of its work, the IDESG will create and adopt many documents to serve its many
129 purposes and activities. Some of these documents may be incorporated into, or be sanctioned
130 as authoritative guidance, within IDESG's Identity Ecosystem Framework. In this document, the
131 word "specification" generally refers to a specific data structure which is defined by a document.
132 That may include markup languages, code, methodologies, APIs, policy guidance or other
133 recommended behaviors; and may come from a single source or a group, and from industry,
134 academic or governmental sectors or combinations of them. . Whatever their merit, not all
135 specifications are standards. The word "standard" implies a higher degree of specificity and
136 testability. According to the International Organization for Standardization (ISO):

137

- 138 • A standard is a document that provides requirements, specifications, guidelines or
139 characteristics that can be used consistently to ensure that materials, products,
140 processes and services are fit for their purpose.

141

142 Section 4 describes the criteria for determining if a document is a standard, if it is an "open
143 standard", and if it is suitable for IDESG adoption.

144

145 **1.5 Profiles and portions of standards**

146 An implementation profile, to apply an existing standard to the needs of a specific community or
147 use case(s), may also be reviewed and processed by the SCC under this Policy, provided that the
148 underlying standard that the profile elaborated has been reviewed, adopted and included in the
149 IDESG Standards Registry.

150

151 **2 Policy Statements**

152

153 The following general principles and assumptions apply to the Standards Adoption Process
154 described in this document.

155 ***2.1 IDESG/SCC is not a Standards Developer.***

156 IDESG shall encourage and assist in the creation and adoption of data specifications and
157 standards; however, neither IDESG nor its Standards Committee is intended to serve as a
158 primary source of their drafting and creation. The primary role of the IDESG is to empower
159 and facilitate individuals and groups of stakeholders identify and describe their needs for
160 information & communication technology ("ICT") methodologies, and to encourage the
161 development of standards to fulfill those needs. This Adoption Process provides structured
162 methods for stakeholders, by working through IDESG, to develop requirements, discovery,
163 definition, cataloging, assessment and recommendation processes for ICT standards. The
164 actual drafting and development of those standards largely are expected to be conducted by
165 independent host Standards Developers.

166 ***2.2 IDESG/SCC will work with Standards Developers to promote standards
167 availability.***

168 The National Strategy calls for the identity ecosystems encouraged by the IDESG to be based
169 on open and affordable standards to ensure wide adoption, vendor-neutrality and ready
170 availability. IDESG expects that Standards Developers will participate in the development
171 and discussion by the IDESG community of needs for ICT functionality and standardization
172 within its identity management and identity federation scope. IDESG will communicate the
173 discovered requirements and needs of its stakeholders, for new data standards, to Standards
174 Developers for the purpose of encouraging requirements-driven development of standards
175 projects. When an Standards Developer's output of standards and specifications is
176 nominated as a method deserving broader adoption or consideration within IDESG's domain
177 and identity ecologies, the Adoption Process will be used to evaluate its appropriateness.
178 IDESG also will encourage candidate specifications which have useful functionality in its
179 domain to work with Standards Developers to become approved as appropriate for inclusion
180 in IDESG's ecology.

181 ***2.3 IDESG will establish suitability criteria for standards adoption.***

182 "Open standards," as that term and concept is used within the National Strategy, and by
183 governmental policies requiring or encouraging the use of open standards, means standards
184 which have a set of "open" qualities referring to their availability, transparency, development
185 process, licensing and neutrality. These qualities are defined, for IDESG purposes, by the
186 Standards Criteria (in section 4) as applied by the Adoption Process (in section 3). That
187 quality is distinct from, and that assessment does NOT include, an evaluation of the fitness of
188 a proposed standard for its particular purpose, or a functional assessment of its merit or
189 interoperability with other specific technologies. That second inquiry belongs, within
190 IDESG's activities, to the committees or work panels having expertise in the functions in

191 question. Thus, for example, a proposed cybersecurity standard, suggested for broad use
192 within IDESG-endorsed frameworks, might have:

193

- 194 • its security functionality, and suitability for use, assessed by the Security Committee; and
- 195 • the degree to which it is an "open standard", and thus sufficiently available for use,
196 assessed by the Adoption Process.

197 ***2.4 SCC will oversee standards adoption.***

198 The Adoption Process as defined in this document shall be managed by IDESG's Standards
199 Coordination Committee (SCC), in the manner in Section 3 below, subject to the governance
200 of the IDESG through its plenary and other governing mechanisms. The primary role of the
201 SCC will be to arrange for evaluation of candidate standards, when nominated for evaluation,
202 using the Adoption Process, which will result in recommendations and reports to the IDESG
203 Plenary.

204 ***2.5 SCC will be the primary point of Standards Developer liaison.***

205 The SCC shall be the primary point of contact and oversight of approved liaison
206 arrangements with Standards Developers. Liaison relationships will be initiated as needed
207 and shall go through the Management Council liaison approval process. Interaction with
208 Standards Developers will occur either (a) through the SCC, or (b) in cases where a particular
209 IDESG expert committee initiates a relationship, will be advised to the SCC.
210

211 ***2.6 Significance of Adoption Process.***

212 Only adopted standards will be normatively referenced within official IDESG work products
213 and Identity Ecosystem Framework. The reason for the IDESG instituting a formal process
214 for adopting standards is to ensure their suitability for inclusion in the Identity Ecosystem
215 Framework (IDEF). Therefore, any standard so included should have been reviewed and
216 approved for adoption before being employed within the IDEF. Standards cited in draft
217 work products intended for inclusion within the IDEF should be nominated while the
218 document/work product is in draft form so that it will be found in the registry at the time of
219 work product submission for approval. Note that this does not apply to references to
220 documents or content that are not standards (i.e., they are specifications or other useful
221 documents but which are not standards).
222

223 **3. Standards Adoption Process**

224 The process by which a standard is identified, evaluated, and adopted into the Identity
225 Ecosystem Framework is described herein.

226

227 ***3.1 Process flow***

228

229 Nominations for candidate standards to be used in IDESG's endorsed frameworks and identity
230 ecologies may come from (a) IDESG's inventory efforts (described below), (b) substantive IDESG
231 committees (such as the Security Committee) who identify standards requirements or propose
232 one or more specific candidates for review, or (c) from the results of IDESG's own use case
233 development work. The SCC shall identify applicable standards and ascertain gaps in existing
234 standards based on the established use cases and those incoming nominations. The SCC shall
235 use designated IDESG liaisons for communicating any identified gaps to the Standards Developer
236 and for monitoring progress of the standards project within the Standards Developer.

237

238 As candidate standards for examination are identified as relevant for consideration by an IDESG
239 committee or stakeholder, they will be queued (by the Standards Committee) for review, as
240 described in the next section.

241

242 Figure 1 depicts a high level functional view of the standards adoption process flow.

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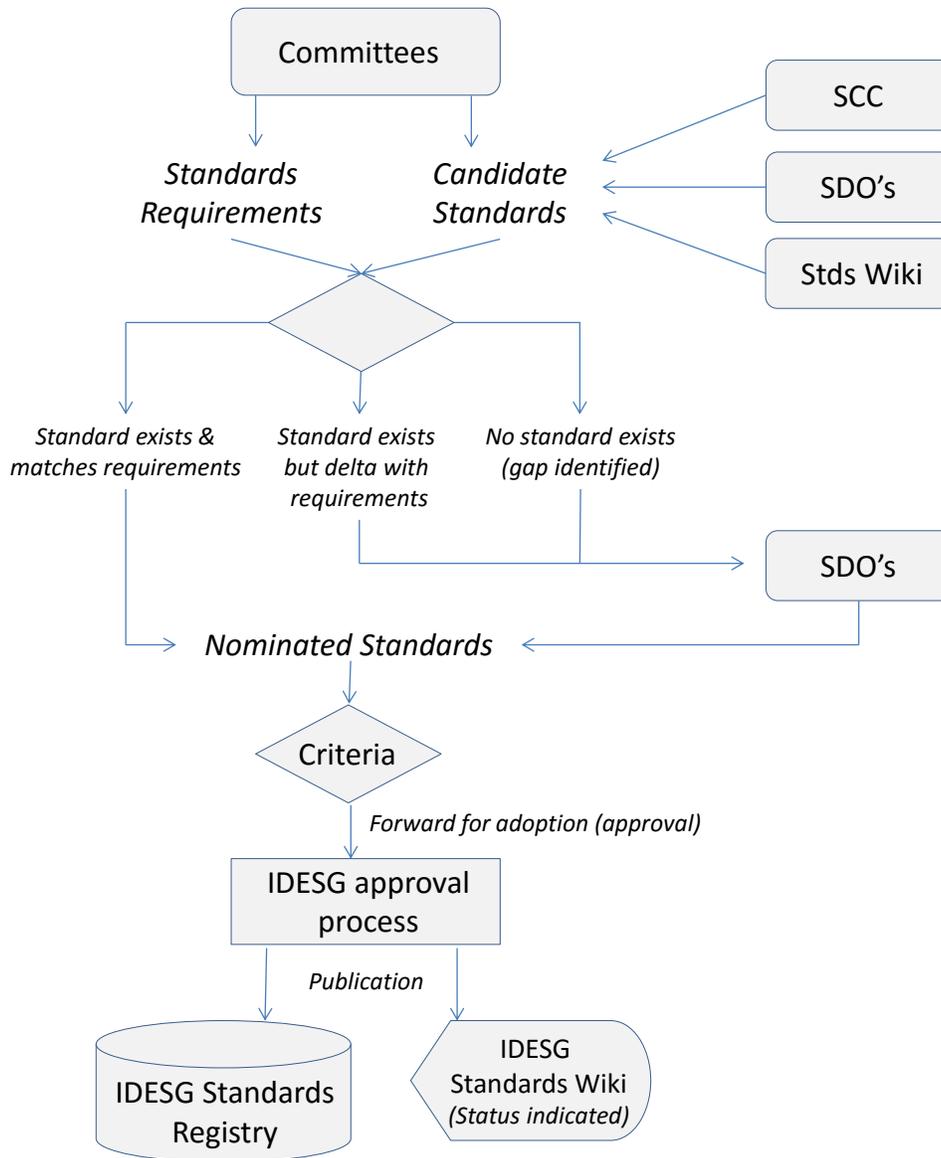


Figure 1. Standards Adoption Process Flow

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3.1.1 Gap identification

Gaps in available standards to meet the needs of the IDESG and the Identity Ecosystem framework may be identified in several ways:

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- *Requirements analysis.* As part of their ongoing activities, IDESG committees may develop sets of requirements, including standards requirements. For example, in the development of a functional model of the Identity Ecosystem, requirements may be identified. Likewise, as the IDESG use cases are developed and analyzed from various perspectives, standards requirements may be derived. When these requirements are analyzed to determine whether they can be satisfied by existing standards, it may be determined that either

- 259 ○ A standard exists, but needs to be revised (updated or expanded) to completely
- 260 satisfy the requirement, or
- 261 ○ No standard exists to address the specific requirement(s)
- 262 ● *“Known gaps”*. As a community, we are aware of some identity-related standards gaps
- 263 that for one reason or another have not yet been addressed by a Standards Developer.
- 264 These may be collected through a solicitation process; an IDESG committee, stakeholder,
- 265 or NSTIC pilot may identify a gap and/or propose a standards project.
- 266 ● *Stakeholder inputs*. IDESG stakeholders may identify gaps to the SCC. For example, an
- 267 IDESG committee, stakeholder group, or an NSTIC pilot may identify a gap and/or
- 268 propose a standards project.
- 269

270 Once a gap is identified, it must be described and a proposal should be created for a standards
 271 project to fill the gap. If multiple gaps are identified in the same timeframe, the SCC shall
 272 prioritize the processing of those gaps in accordance with the current needs of the identity
 273 ecosystem framework and consistent with the principles contained in this document.
 274

275 **3.1.2 Standards Developer selection**

276 Once a standards project proposal has been drafted, IDESG may wish to identify suitable
 277 Standards Developers to take on and host that project, or may issue an open call for standards
 278 projects to fulfill the identified needs. When a request is made, Standards Developers shall be
 279 selected based on:

- 280
- 281 ● Qualifications related to the subject matter
- 282 ● Criteria for openness and affordability as described in Section 4
- 283 ● Adequate personnel to progress the work
- 284

285 Standards Developer selection shall proceed as follows:

- 286
- 287 ● Standards Developer nominations will be made to and by the SCC
- 288 ● The SCC will evaluate the nominations, including interviewing of Standards Developers as
- 289 appropriate, applying the above selection criteria
- 290 ● If more than one Standards Developer has been nominated, the SCC will vote on the
- 291 Standards Developer to be offered the project
- 292

293 Once selected, if a Standards Developer is neither a member of the IDESG nor has a formal
 294 liaison relationship between the IDESG and the Standards Developer, such a liaison shall be
 295 established and an SCC member assigned as the liaison representative. The liaison
 296 representative shall monitor the progress of the standards project and report back to the SCC.
 297 Other IDESG/SCC members may join the Standards Developer to participate in the project at
 298 their discretion.
 299
 300
 301
 302

303

304 **3.2 Standards adoption life cycle**

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306 The standards adoption process is implemented through a staged process represented as a life
 307 cycle, as depicted in Figure 2 below.

308

Standards Inventory	Standard Revision/ Development	Standard Nomination	Standard Review	Recommended (Submitted)	Approval & Adoption
<ul style="list-style-type: none"> Collection of existing identity-related standards. Standards Wiki – <ul style="list-style-type: none"> Collection Access Feedback Source of candidate standards 	<ul style="list-style-type: none"> When gaps exist, work with SDO to either: <ul style="list-style-type: none"> Initiate a new standards project to develop a new standard Initiate a revision of an existing standard to better meet IDESG requirements Requirements come from SCC & other committees Liaise throughout project 	<ul style="list-style-type: none"> IDESG committee or SCC nominates a standard for adoption Nomination form (online) Nominator defines purpose/relevance and GPs addressed. 	<ul style="list-style-type: none"> SCC reviews nominated standard. Standard criteria applied (answer the question – “Is this a <an open> standard?”) SCC may meet with nominator for Q&A. SCC may liaise with Privacy Committee for preliminary review. 	<ul style="list-style-type: none"> Standard to be balloted by the plenary for IDESG adoption. Adoption means inclusion in the IDESG Standards Registry. Undergoes all plenary approval processes as defined in the RoA. 	<ul style="list-style-type: none"> Approved IDESG work product. Included within “IDESG Standards Registry” – list of standards which form part of the Identity Ecosystem Framework. Ready for use to inform (and be normatively referenced within) other IDESG work.
<p><u>Progression gate:</u></p> <ul style="list-style-type: none"> Standard is nominated for consideration. 	<p><u>Progression gate:</u></p> <ul style="list-style-type: none"> New/revise standard published Standard entered into Inventory 	<p><u>Progression gate:</u></p> <ul style="list-style-type: none"> Nomination form submitted 	<p><u>Progression gate:</u></p> <ul style="list-style-type: none"> Meets ‘standards’ criteria. SCC approves forwarding standard for adoption (recommends it for adoption). 	<p><u>Progression gate:</u></p> <ul style="list-style-type: none"> Plenary ballot passes. 	<p><u>Progression gate:</u></p> <ul style="list-style-type: none"> N/A. Standard may be removed from the approved list or may be replaced by newer version by ballot.
Individual/ AHG	SDO	Committees	SCC	MC/Plenary	IDESG

309

Figure 2. Standards adoption life cycle

310

311

312 The Standard Adoption Lifecycle phases are designed to provide a framework for effectively
 313 achieving the goals of the SCC to review applicable standards and adopt those that support
 314 achievement of the NSTIC vision, conform to the Guiding Principles, for standards to be
 315 established and adopted in a timely manner and be sufficient to keep pace with emerging
 316 technology and market trends.

317

318 The Standards Adoption Lifecycles consist of six phases:

319

320 **3.2.1 Standards Inventory**

321 SCC will lead the collection of existing relevant specifications and standards, on an uncritical
 322 basis, welcoming all data, and establish a standards Wiki for access and feedback and identifying
 323 their sources.

324

325 **3.2.2 Standards Revision and Development**

326 SCC will work with Standards Developers to close gaps. If needed, SCC may initiate or seek the
 327 initiation of new standards development projects, and/or revisions to existing standards, for
 328 alignment with IDESG requirements. (See Section 3.1.1.) SCC will assist IDESG committees in
 329 integrating their substantive requirements into those communications.

330

331 **3.2.3 Standards Nomination**

332 When a candidate standard is proposed for use in an IDESG-endorsed process, by an IDESG
 333 committee or SCC standards nomination (from its gap analysis review), then it is flagged for
 334 official review as described below, before the Plenary's approval. SCC should develop a
 335 nomination form for the Standards Wiki for all such submissions and nominations, which
 336 establishes a forum for a nominator to articulate the purpose, relevance, and source information
 337 for candidate standards, as well as consistency with the NSTIC Guiding Principles and NSTIC and
 338 IDESG's values in navigating the new identity-enabled online world.

339

340 **3.2.4 Standards Review**

341 The SCC will review each nominated candidate standard, against the Standards Adoption
 342 Criteria, and post a notice to the IDESG community inviting feedback on the candidate standard's
 343 open attributes (including its availability and any IPR issues), and its satisfaction of the Adoption
 344 Criteria. The results of that review and open feedback process will be compiled into a report
 345 provided by the SCC to the IDESG Plenary.

346

347 **3.2.5 SCC Recommended/Submitted Standards for IDESG Approval**

348 SCC reports will be used to inform any proposed IDESG Plenary action to approve or endorse a
 349 candidate standard, and shall be transmitted to Plenary members before their decision, subject
 350 to the requirements of the existing IDESG governance documents. The outcomes of those
 351 ballots, and that report, shall be incorporated into the information made available in the IDESG
 352 standards registry.

353

354 **3.2.6 Approval and Adoption:**

355 Once the Plenary has approved a standard, using the procedure described above, that standard
 356 shall be listed within the IDESG Standards Registry. Standards in the registry may be removed or
 357 replaced by plenary ballot.

358

359 **3.3. Roles and responsibilities**

360

361 **3.3.1 Standards Committee**

362 The SCC will maintain the Standards Wiki and Standards Inventory - identifying and publishing
 363 lists of new and/or existing open standards relevant to the NSTIC Identity Ecosystem. When
 364 there is a need to modify existing Standards, then the SCC will work with the IDESG committee

365 having expertise in that domain to document the recommended modifications and work with
366 the relevant Standards Developer to initiate the work. In cases where it is not feasible for the
367 owning Standards Developer to modify the standard and there are no alternative standards, the
368 SCC may provide recommendations on how to proceed. The SCC shall be the primary entity
369 within the IDESG for the establishment and maintenance of Standards Developer liaisons.
370

371 **3.3.2 IDESG Committees**

372 The committees may nominate candidate standards for adoption, as being relevant to the
373 ecosystem or an included element in a set of procedures recommended for IDESG endorsement.
374 IDESG committees may offer requirements for identified standards and seek new projects, or
375 modifications to existing projects, from relevant Standards Developers (via the SCC).
376 Committees are encouraged to contribute to the Standards Inventory.
377

378 **3.3.3 Standards Developers**

379 Standards Developers should identify existing standards applicable to the NSTIC effort, and
380 suggest new standards projects or revisions of existing standards to meet NSTIC identity
381 ecosystem needs. The SCC will focus on direct collaboration with relevant Standards Developers
382 such as *de jure*, consortia, professional society and industry associations (e.g., IETF, OASIS, W3C,
383 ISO, ITU, and relevant other consortia). IDESG will seek to establish or maintain liaison
384 relationships with relevant Standards Developers when standards projects are initiated.
385

386 **4 Standards Criteria**

387 **4.1 Common Principles**

388 There is a common constellation of principles generally used to determine the suitability of
 389 proposed specifications for broader implementation in the service of public policy goals. Each of
 390 the following requirements appears in some manner in each of the principal systems described
 391 in Section 1.2 above.

392
 393 This Standards Adoption Policy should be reviewed and refreshed by the SCC as needed, and
 394 sent through Management Council review and Plenary adoption (as well as any intermediate
 395 bodies whose approval may be required by IDESG rules) periodically, or at a minimum every 3
 396 years.

397
 398 In some cases, determinations on the criteria listed below may be specific to a proposed
 399 standard under review. In others, a recent positive determination regarding a standards
 400 developer's process or characteristics may be applicable to subsequent proposals from the same
 401 developer, avoiding the need for re-evaluating the same matters.

402 **4.2 Primary characteristics**

- 403 • *Participatory openness*, in the sense that anyone reasonably can participate .
 - 404 ○ Openness facilitates balanced input, and retards the exclusion of stakeholders or
 - 405 use cases. Some standards developers have explicit "balance" composition rules.
 - 406 Others believe that better results come from proactive recruiting, and level-
 - 407 playing-field rules that make participation attractive for minority stakeholders,
 - 408 than from quota approaches.
 - 409 ○ Some standards developers vary in the degree to which individuals, as opposed to
 - 410 companies, may participate.
 - 411 ○ Some degree of participation fees have generally been found appropriate,
 - 412 although it's possible that a "rich players club" with too high an entry barrier
 - 413 might be found inappropriately exclusionary. (See "Affordability" below.)
- 414 • *Fairness and due process* rules to enforce balanced decisions and consensus
 - 415 methodology.
 - 416 ○ At a minimum, published rules and an absence of a track record of ignoring them
 - 417 seem essential.
 - 418 ○ Usually includes enforcement mechanisms reasonably assuring that the rules are
 - 419 followed. This can be difficult to measure or assess in the case of small or
 - 420 volunteer-run groups.
 - 421 ○ In practice, it appears that some agencies run spot-checks on this issue by seeking
 - 422 and evaluating assertions that significant points of view were excluded.
- 423 • *Transparency*, or openness in the sense of public access to inputs and results.
 - 424 ○ The degree of availability of draft material (as opposed to final products)
 - 425 varies widely among standards developers at present. Their justifications
 - 426 for securing draft information range from preserving it as a member-only
 - 427 benefit, to keeping it distinct from final work ready for implementation, to

- 428 assertions that technical debates may be more robust if not conducted
 429 transparently.
- 430 ○ There is a related but difficult-to-measure problem with groups who have
 431 transparency rules in theory (such as posting and archiving practices, and
 432 meeting notice rules), but tend not to honor them in practice.
- 433 ● *Function-oriented description*, as opposed to specifying design or product-specific
 434 characteristics.
 - 435 ○ This requirement obviously retards lock-in or tying to a single product or
 436 methodology other than the specification itself.
 - 437 ○ Description of the proposed functions also allows a review process to
 438 assess the market demand, and the ecosystem niche or role which the
 439 reviewed method may fill – thus supplying guidance on the
 440 appropriateness of its inclusion.
 - 441 ○ Descriptions by performance feature (as opposed to "do it like this
 442 exemplar product") tend to give better guidance to developers of new
 443 conforming products, and are more readily adaptable into useful
 444 conformance clauses for testing purposes. Examples of function-oriented
 445 descriptions should usually be found in the scope statements of standards
 446 projects, where intended outcomes and boundaries are described in
 447 detail, but proprietary processes generally are not referenced.
 - 448 ● *Affordability*, such that the benefits of the standard are within the means of all
 449 stakeholders across the economic spectrum ranging from individuals,
 450 entrepreneurs, micro and small enterprises to large enterprises.
 - 451 ○ Some published standards are available only by purchasing a copy (or access)
 452 for a stated price. Current public policy often finds it appropriate for SDOs to
 453 pass along the reasonable costs of development. There is some pushback on
 454 this principle from the "open data" movement, on the grounds that public
 455 policies which are amount to regulatory requirements should be freely
 456 available, to enable review and compliance.
 - 457 ○ Standards may also bear royalty requirements or similar costs that require
 458 users to pay for their use. Those new costs may affect its suitability for use in
 459 the identity ecosystem. Some governments express a preference for low-cost,
 460 royalty-free, freely-available or open source standards in order to support
 461 wide implementation and access.
 - 462 ○ Other activities related to the development of, participation in, or use of a
 463 standard may give rise to other costs which must be considered in assessing
 464 its affordability, including participation costs (see "participatory openness"),
 465 implementation costs, and certification costs. Innovations that reduce the
 466 cost of standards participation are encouraged.
 - 467 ○ The significance of these costs may depend on the nature of the use (*e.g.*, is it
 468 to be used only through large software installations, or by all citizens?) and
 469 market effects (*e.g.*, are alternatives available, or likely to evolve?).
 - 470 ● *Relevance*
 - 471 ○ A standard should be consistent with the needs of the Identity Ecosystem and
 472 with the NSTIC Guiding Principles.

473 **4.3 Requirements derived from the primary characteristics**

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- *Adequate public review procedures* creating genuine opportunities for, and consideration of, feedback from non-participants.
 - Parties who do not wish to invest the time or licensure necessary to actively contribute to a standard still may represent stakeholders whose views should be considered.
 - Several of the above bodies explicitly require minimum durations for public review, or replies or acknowledgments of public comments received, or both.
- *Stable hosting arrangements* likely to support the intended access and permanence of the outputs and relevant archival material.
 - Artifacts must be persistently available with a stable host: The access and openness deliverables noted above are of little value if artifacts cannot be found and relied upon, over time, after their issuance.
 - This archival imperative may apply to draft inputs and metadata as well as final approved outputs.
 - To some degree, provisions for monitoring and enforcing the maintenance phase of published standards – managing errata, maintaining their integrity via copyright management, and maintaining conformance or interoperability criteria – also may be relevant. The need for these functions may vary widely depending on the nature of the standard.
- *Intellectual property rules* with sufficient certainty, access and enforcement.
 - The same principles of clearly-stated rules, and reliable enforcement, noted for process rules, above, also should apply here, so that stakeholders who adopt or contribute to a project can do so with reasonable knowledge of the known rights consequences.
 - Outputs that are only available on extraordinarily-limited license terms may not serve the goals of a broadly implementable standard. Some governments take this issue further, and express a preference for royalty-free, freely-available or open source standards in order to support wide implementation and access. Standards with disproportionately expensive usage fees or royalty requirements are unlikely to promote a widely-useable ecosystem.
 - Standards whose development allows contributors to attach complex conditions, of the outset (hostage-taking at the design stage), may not develop freely in response to feedback from other stakeholders.
 - Overly-restrictive licenses required to implement a final standard, especially those which require negotiation or surveillance by competitors (hostage-taking at the implementation stage), may impede use of the standard or related technology, as is implied in the SEP cases.

515 **Appendix A: References**

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517 The following table summarizes the documents referenced in this document.

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Document Name	Version	Location
Rules of Association of the Identity Ecosystem Steering Group (IDESG)	rev 1, 10 April 2013	https://www.idecosystem.org/ROA
National Strategy for Trusted Identities in Cyberspace	15 April 2011	http://www.whitehouse.gov/sites/default/files/rss_viewer/NSTICstrategy_041511.pdf

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520 **Appendix B: Key Terms**

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522 The following table provides definitions for terms relevant to this document.

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Term	Definition
Specification (Section 1.4)	"Specification" generally refers to a specific data structure which is defined by a document. That may include markup languages, code, methodologies, APIs, policy guidance or other recommended behaviors; and may come from a single source or a group, and from industry, academic or governmental sectors or combinations of them.
Standard (Section 1.4)	The word "standard" implies a higher degree of specificity and testability. Section 4 of this Policy describes the criteria for determining if a document is a standard, if it is an "open standard", and if it is suitable for IDESG adoption.

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