



XACML Intellectual Property Control (IPC) Profile Version 1.0

Committee Specification Draft 203 / Public Review Draft 03

~~17 June 2010~~ May 2012

Specification URIs:

This ~~V~~version:

<http://docs.oasis-open.org/xacml/3.0/ipc/v1.0/csprd03/xacml-3.0-ipc-v1.0-csprd03-en.doc>
(Authoritative)
<http://docs.oasis-open.org/xacml/3.0/ipc/v1.0/csprd03/xacml-3.0-ipc-v1.0-csprd03-en.html>
<http://docs.oasis-open.org/xacml/3.0/ipc/v1.0/csprd03/xacml-3.0-ipc-v1.0-csprd03-en.pdf>

Previous ~~V~~version:

<http://docs.oasis-open.org/xacml/3.0/ipc/xacml-3.0-ipc-v1-spec-cs-01-en.doc> (Authoritative)
<http://docs.oasis-open.org/xacml/3.0/ipc/xacml-3.0-ipc-v1-spec-cs-01-en.html>
<http://docs.oasis-open.org/xacml/3.0/ipc/xacml-3.0-ipc-v1-spec-cs-01-en.pdf>

Latest ~~V~~version:

<http://docs.oasis-open.org/xacml/3.0/ipc/v1.0/xacml-3.0-ipc-v1.0-en.doc> (Authoritative)
<http://docs.oasis-open.org/xacml/3.0/ipc/v1.0/xacml-3.0-ipc-v1.0-en.html>
<http://docs.oasis-open.org/xacml/3.0/ipc/v1.0/xacml-3.0-ipc-v1.0-en.pdf>

Technical Committee:

OASIS eXtensible Access Control Markup Language (XACML) TC

Chair(s):

Chairs:

Bill Parducci (bill@parducci.net, ~~↔~~), Individual
Hal Lockhart (hal.lockhart@oracle.com, ~~Oracle ↔~~), Oracle

Editor(s):

Editors:

John Tolbert (john.w.tolbert@boeing.com, ~~The Boeing Company, ↔~~), The Boeing Company
~~Crystal Hayes~~ (crystal.l.hayes@boeing.com), The Boeing Company
~~Richard Hill~~ (richard.c.hill@boeing.com), The Boeing Company
~~Paul Tyson~~ (ptyson@bellhelicopter.textron.com), Bell Helicopter Textron
~~Andy Han~~ (andy.han@nextlabs.com), Nextlabs Inc.
~~Danny Thorpe~~ (danny.thorpe@quest.com), Quest Software
~~Remon Sinnema~~ (remon.sinnema@emc.com), EMC
~~Erik Rissanen~~ (erik@axiomatics.com), Axiomatics
~~David Brossard~~ (david.brossard@axiomatics.com), Axiomatics

Related work:

This specification is related to:

- ~~OASIS Standard, "eXtensible Access Control Markup Language (XACML) Version 3.0. Latest version.~~
~~<http://docs.oasis-open.org/xacml/3.0/xacml-3.0-core-spec-en.html>, April 2010.~~

Declared XML Namespace(s):

None

Abstract:

This specification defines a profile for the use of XACML in expressing policies for intellectual property control (IPC). It defines standard attribute identifiers useful in such policies, and recommends attribute value ranges for certain attributes.

Status:

This document was last revised or approved by the eXtensible Access Control Markup Language (XACML) TC on the above date. The level of approval is also listed above. Check the “~~Latest Version~~” or “~~Latest Approved Version~~version” location noted above for possible later revisions of this document.

Technical Committee members should send comments on this specification to the Technical Committee’s email list. Others should send comments to the Technical Committee by using the “~~Send A Comment~~“~~Send A Comment~~” button on the Technical Committee’s web page at <http://www.oasis-open.org/committees/xacml/>.

For information on whether any patents have been disclosed that may be essential to implementing this specification, and any offers of patent licensing terms, please refer to the Intellectual Property Rights section of the Technical Committee web page (<http://www.oasis-open.org/committees/xacml/ipr.php>).

~~The non-normative errata page for~~Citation format:

~~When referencing~~ this specification ~~is located at~~ the following citation format should be used:

[xacml-ipc-v1.0]

XACML Intellectual Property Control (IPC) Profile Version 1.0. 17 May 2012. OASIS Committee Specification Draft 03 / Public Review Draft 03.

<http://docs.oasis-open.org/xacml/3.0/ipc/v1.0/csprd03/xacml-3.0-ipc-v1.0-csprd03-en.html>

Notices

Copyright © OASIS~~© 2010~~ [Open 2012](#). All Rights Reserved.

All capitalized terms in the following text have the meanings assigned to them in the OASIS Intellectual Property Rights Policy (the "OASIS IPR Policy"). The full ~~Policy~~ [Policy](#) may be found at the OASIS website.

This document and translations of it may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published, and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this section are included on all such copies and derivative works. However, this document itself may not be modified in any way, including by removing the copyright notice or references to OASIS, except as needed for the purpose of developing any document or deliverable produced by an OASIS Technical Committee (in which case the rules applicable to copyrights, as set forth in the OASIS IPR Policy, must be followed) or as required to translate it into languages other than English.

The limited permissions granted above are perpetual and will not be revoked by OASIS or its successors or assigns.

This document and the information contained herein is provided on an "AS IS" basis and OASIS DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY OWNERSHIP RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

OASIS requests that any OASIS Party or any other party that believes it has patent claims that would necessarily be infringed by implementations of this OASIS Committee Specification or OASIS Standard, to notify OASIS TC Administrator and provide an indication of its willingness to grant patent licenses to such patent claims in a manner consistent with the IPR Mode of the OASIS Technical Committee that produced this specification.

OASIS invites any party to contact the OASIS TC Administrator if it is aware of a claim of ownership of any patent claims that would necessarily be infringed by implementations of this specification by a patent holder that is not willing to provide a license to such patent claims in a manner consistent with the IPR Mode of the OASIS Technical Committee that produced this specification. OASIS may include such claims on its website, but disclaims any obligation to do so.

OASIS takes no position regarding the validity or scope of any intellectual property or other rights that might be claimed to pertain to the implementation or use of the technology described in this document or the extent to which any license under such rights might or might not be available; neither does it represent that it has made any effort to identify any such rights. Information on OASIS' procedures with respect to rights in any document or deliverable produced by an OASIS Technical Committee can be found on the OASIS website. Copies of claims of rights made available for publication and any assurances of licenses to be made available, or the result of an attempt made to obtain a general license or permission for the use of such proprietary rights by implementers or users of this OASIS Committee Specification or OASIS Standard, can be obtained from the OASIS TC Administrator. OASIS makes no representation that any information or list of intellectual property rights will at any time be complete, or that any claims in such list are, in fact, Essential Claims.

The name "OASIS" is a trademark of ~~OASIS~~ [OASIS](#), the owner and developer of this specification, and should be used only to refer to the organization and its official outputs. OASIS welcomes reference to, and implementation and use of, specifications, while reserving the right to enforce its marks against misleading uses. Please see <http://www.oasis-open.org/policies-guidelines/trademark> for above guidance.

Table of Contents

1	Introduction	6
1.1	Glossary	7
1.2	Terminology	9
1.3	Normative References	9
1.4	Non-Normative References	10
1.5	Scope	10
1.6	Use cases	10
1.7	Disclaimer	12
2	Profile	13
2.1	Resource Attributes	13
2.1.1	Copyright	13
2.1.2	Patent	13
2.1.3	Proprietary	13
2.1.4	Public-Domain	13
2.1.5	Trademark	14
2.1.6	IP-Owner	14
2.1.7	IP-Designee	14
2.1.8	Agreement-Type	14
2.1.9	Agreement-Id	15
2.1.10	Effective-Date	16
2.1.11	Expiration-Date	16
2.2	Subject Attributes	16
2.2.1	Organization	16
2.2.2	Organization-Type	17
2.2.3	Organizational-Relationship	17
2.2.4	Affiliation-Type	18
2.2.5	Agreement-Id	18
2.3	Obligations	18
2.3.1	Encrypt	18
2.3.2	Marking	19
3	Identifiers	20
3.1	Profile Identifier	20
4	Examples (non-normative)	21
4.1	Copyright	21
4.1.1	Copyright Request	21
4.1.2	Copyright Policy	22
4.2	Trademark	25
4.2.1	Trademark Request	25
4.2.2	Trademark Policy	26
4.3	Proprietary	28
4.3.1	Proprietary Request	28
4.3.2	Proprietary Policy	29
5	Conformance	33

5.1 Attribute Identifiers	33
5.2 Attribute Values	34
Appendix A. Acknowledgements	35
Appendix B. Non-Normative Text	37
Appendix C. Revision History	40

1 Introduction

{Non-normative}

This specification defines a profile for the use of the OASIS eXtensible Access Control Markup Language (XACML) [XACML3] to write and enforce policies for the purpose of providing access control for resources deemed intellectual property (hereinafter referred to as IP). Use of this profile requires no changes or extensions to the [XACML3] standard.

This specification begins with a non-normative discussion of the topics and terms of interest in this profile. The normative section of the specification describes the attributes defined by this profile and provides recommended usage patterns for attribute values.

This specification assumes the reader is somewhat familiar with XACML. A brief overview sufficient to understand these examples is available in [XACMLIntro].

For our purposes, IP may be defined as legal property rights over mental creations. IP owners can receive exclusive rights to their creations, if certain conditions are met. These exclusive rights can be exploited by the owner for profit, either directly through sales of products, or indirectly through licensing.

IP is an asset; perhaps the most valuable asset an organization has. IP can be licensed to other organizations in cases of outsourcing and/or to generate revenue from IP sharing arrangements.

IP value tends to increase when properly protected, though there are differing points of diminishing returns. IP protection doesn't guarantee security; it just provides a compensation mechanism for cases of unlawful exploitation. IP valuation and protection are often criteria for venture capital investors.

Broadly speaking, there are four main categories of intellectual property: copyrights, trademarks, trade secrets, and patents. Copyrights confer time-limited exclusive rights of ownership and/or use to the creator of the work. A copyright is typically used to protect artistic works such as photographs, music, books, etc. Copyrights are internationally recognized, though there are differences in the terms and enforcement. [When copyright protection and status ends, resources are said to become public domain.](#)

Trademarks are the IP protection scheme of names, logos, symbols, products, etc. For example, in the U.S. there are 2 main types:

- For general usage, or for not-yet-registered trademarks ™
- For trademarks registered with the USPTO ®

Trademarks are also internationally recognized through the Madrid system, which requires registration through the World Intellectual Property Organization (WIPO), a United Nations agency. The World Trade Organization also sets legal minimum standards for IP protection among member nations.

Patents are property rights granted to an inventor to prevent others from profiting from the invention for a limited time in exchange for public disclosure of the invention when the patent is granted. Patents apply to processes, machines, articles of manufacture, or composition of matter (including biological), or derived innovations. Patents require detailed disclosure of information, designs, processes, etc. Patents are administered in U.S. by the USPTO, and are internationally recognized by WTO TRIPS, WIPO, and European Patent Convention. [When patent protection and status ends, resources are said to become public domain.](#)

Trade secrets are IP protection of formulae, processes, designs, information, etc. that are not easily obtainable that a business uses for competitive advantage. They are often protected by legal contracts such as non-disclosure agreements, non-compete agreements, or proprietary information agreements. Trade secrets are the most common form of industrial IP protection, and outnumber patents. However, trade secrets are most often categorized as "proprietary" information, and may not be discovered as trade secrets unless litigated. They are not federally protected in the U.S., though most states have adopted the Uniform Trade Secrets Act. However, theft of trade secrets is prohibited by U.S. Economic Espionage Act of 1996. Trade secret status requires less disclosure than patents. Trade secrets are well protected by European Patent Convention as "know how". No international treaties protect trade secrets, though WTO TRIPS, GATT, and NAFTA have provisions for trade secret protection.

49 | Other IP related concepts, such as **public domain, PII, proprietary, and third-party and proprietary**
50 | will be defined in the glossary section.

51 | The attributes and glossary terms defined below are not an exclusive or comprehensive list of all the
52 | attributes that may be required for rendering authorization decisions concerning IP. For example, PDPs
53 | would have to evaluate other entitlements, such as group membership, from PIPs- (Policy Information
54 | Points). This profile is meant as a point of reference for implementing IP controls, and may be extended
55 | as needed for organizational purposes. Software vendors who choose to implement this profile should
56 | take the attributes herein as a framework for IP controls, but allow individual implementers some flexibility
57 | in constructing their own XACML-based authorization policies and PDPs.

58 | The goal of this profile is Organizations not only create and use intellectual property, but they also often
59 | grant rights and/or license their IP to other organizations for a variety of reasons. Companies often
60 | license copyrighted, patented, and proprietary information to sub-contractors to provide goods or services
61 | in return. The information may be exchanged under several types of legal agreements, e.g., proprietary
62 | information agreements or patent grants. Also, organizations may grant the use of their trademarks to
63 | other businesses or non-profit institutions via trademark grants. These legal documents which grant
64 | rights to IP resources to others generally require that the licensed IP is protected. Thus, the agreements
65 | form the basis of access control policies, which can be expressed in XACML.

66 | The goals of this profile are to create a framework of common IP-related attributes upon which
67 | authorization decisions can be rendered, and to promote federated authorization for access to IP
68 | resources. This profile will also provide XACML software developers and authorization-access control
69 | policy writers/authors guidance on supporting IP-~~control~~ use cases.

70 | 1.1 Glossary

71 | **Authority**

72 | The entity which is responsible for authorizing the transaction. This can be a particular company,
73 | organization, or contract.

74 | **Affiliation type**

75 | The type of organization to which a subject may belong. This profile lists a number of common
76 | affiliation types, including customer, supplier, partner, non-profit, government, primary contractor,
77 | sub-contractor, joint development, and authorized sub-licensor. In cases of joint development,
78 | organizations should agree on which resources were developed and by whom prior to the
79 | execution of the agreement (background IP), and determine rights and ownership of resources
80 | developed as a result of the agreement (foreground IP). The authorized sub-licensor value
81 | denotes organizations that have rights to sub-license resources that are granted by the IP-Owner.

82 | **Agreement identifier**

83 | A name, number, or other alphanumeric designator for referencing legal agreements which grant
84 | IP access.

85 | **Agreement type**

86 | The type of legal agreement which grants access to IP resources. Language granting rights to IP
87 | resources can be embedded in a number of different types of agreements. This profile includes
88 | URNs for the most common types: non-disclosure agreements, proprietary information
89 | agreements, technical data grants, patent grants, trademark grants, cross-licensing grants, and
90 | royalty-bearing.

91 | **Copyright**

92 | A form of limited and temporary government-granted monopoly which gives the creator of an
93 | original work some rights for a certain time period in relation to that work, including its publication,
94 | distribution and adaptation; after which time the work is said to enter the public domain. Copyright
95 | applies to concrete expressions of information, but not the information itself.

96 | **Country**

~~A national political administrative unit recognized for diplomatic and trade purposes by governments and other international organizations.~~

Covered resource

A resource that is named, described, or implied in an IP agreement as being covered or included in the terms of the agreement.

Covered subject

A subject that is named, described, or implied in an IP agreement as being covered or included in the terms of the agreement. (For example, a person who has an organizational affiliation with a party to an agreement might be a covered subject of the agreement.)

Effective date

The date on which an intellectual property license takes effect, thereby implying access for authorized purposes.

Expiration date

The date on which an intellectual property license expires, thereby terminating access.

IP-Designee

A person or entity that has been designated (directly or indirectly) by the IP-Owner to have certain rights to a particular IP resource.

IP-Owner

A designation for the persons or ~~entities with designated intellectual property rights.~~

IP-Owner

~~A designation for the entity which~~that owns the intellectual property.

Marking

License

~~An agreement granting rights in Intellectual Property.~~

Location

~~The **location** of the requesting principal. Values of acceptable locations may be specified by legal contract, and may be specific to implementations. PDPs and PEPs SHOULD be configured for mutual understanding of said values.~~

Nationality

~~A country of which a person is a citizen.~~

A visual indicator added to physical instances of intellectual property assets that provides policy and/or procedural guidance.

Organization

A company or other legal entity of which a person can be an employee or agent.

Organizational-Relationship

The organizational relationship of the subject's organization (identified by the organization attribute) to the organization that owns the IP resource. Examples include "employee" and "contractor".

Organization-Type

The type of organization referenced in Organization, which can include "commercial", "non-profit", and "government". Other types could be created and used as needed.

Patent

A set of exclusive rights granted by a government to an inventor or his/her assignee for a limited period of time in exchange for a disclosure of an invention.

141 **PII**
142 ~~Personally identifiable information. For example, U.S. Social Security Numbers.~~

143 **Proprietary**

144 Information ~~protected~~developed by an organization ~~by technical controls. May sometimes be for~~
145 competitive advantage. "Proprietary" is used synonymously with "trade secret". For this reason,
146 this profile identifies trade secrets and related terms such as confidential as "proprietary".

147 **Public domain**

148 Information that has been demoted from copyright, trademark, trade secret, or patented status.
149 No intellectual property controls are usually necessary for items considered public domain.

150 **Third-party proprietary**

151 Intellectual property which has been legally entrusted to the care and use of another organization.
152 To promote clarity, this profile utilizes the "Proprietary" resource attribute in conjunction with the
153 "IP-Owner" resource attribute to express this concept.

154 **Trademark**

155 A distinctive sign or indicator used by an individual, business organization, or other legal entity to
156 identify that the products, and/or services to consumers with which the trademark appears
157 originate from a unique source of origin, and to distinguish its products or services from those of
158 other entities.

159 **Trade secret**

160 A formula, practice, process, design, instrument, pattern, or compilation of information which is
161 not generally known or reasonably ascertainable, by which a business can obtain an economic
162 advantage over competitors or customers. In some jurisdictions, such secrets are ~~referred~~
163 tedesignated as "confidential ~~information"~~, "limited distribution", or "~~classified~~
164 information-restricted". Used synonymously with "Proprietary".

165 **1.2 Terminology**

166 The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD
167 NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described
168 in [RFC2119].

169 **1.3 Normative References**

170 **[RFC2119]** S. Bradner, *Key words for use in RFCs to Indicate Requirement Levels*,
171 <http://www.ietf.org/rfc/rfc2119.txt>, IETF RFC 2119, March 1997.

172
173 **[XACML3]** OASIS Standard, "eXtensible Access Control Markup Language (XACML)
174 Version 3.0", April 2010. [http://docs.oasis-open.org/xacml/3.0/xacml-3.0-core-](http://docs.oasis-open.org/xacml/3.0/xacml-3.0-core-spec-en.doc)
175 [spec-en.doc](http://docs.oasis-open.org/xacml/3.0/xacml-3.0-core-spec-en.doc)

176
177 **[XACML2]** OASIS Standard, "eXtensible Access Control Markup Language (XACML)
178 Version 2.0", February 2005. [http://docs.oasis-](http://docs.oasis-open.org/xacml/2.0/access_control-xacml-2.0-core-spec-os.pdf)
179 [open.org/xacml/2.0/access_control-xacml-2.0-core-spec-os.pdf](http://docs.oasis-open.org/xacml/2.0/access_control-xacml-2.0-core-spec-os.pdf)

180
181 **[XACML1]** OASIS Standard, "eXtensible Access Control Markup Language (XACML)
182 Version 1.0", February 2003. [http://www.oasis-](http://www.oasis-open.org/committees/download.php/2406/oasis-xacml-1.0.pdf)
183 [open.org/committees/download.php/2406/oasis-xacml-1.0.pdf](http://www.oasis-open.org/committees/download.php/2406/oasis-xacml-1.0.pdf)

184

185 1.4 Non-Normative References

- 186 [XACMLIntro] OASIS XACML TC, *A Brief Introduction to XACML*, 14 March 2003,
187 [http://www.oasis-](http://www.oasis-open.org/committees/download.php/2713/Brief_Introduction_to_XACML.html)
188 [open.org/committees/download.php/2713/Brief_Introduction_to_XACML.html](http://www.oasis-open.org/committees/download.php/2713/Brief_Introduction_to_XACML.html)
189
- 190 [ISO3166] ISO 3166 Maintenance agency (ISO 3166/MA),
191 http://www.iso.org/iso/country_codes.htm
- 192 [DublinCore] Dublin Core Metadata Element Set, version 1.1.
193 <http://dublincore.org/documents/dces/>

194 1.5 Scope

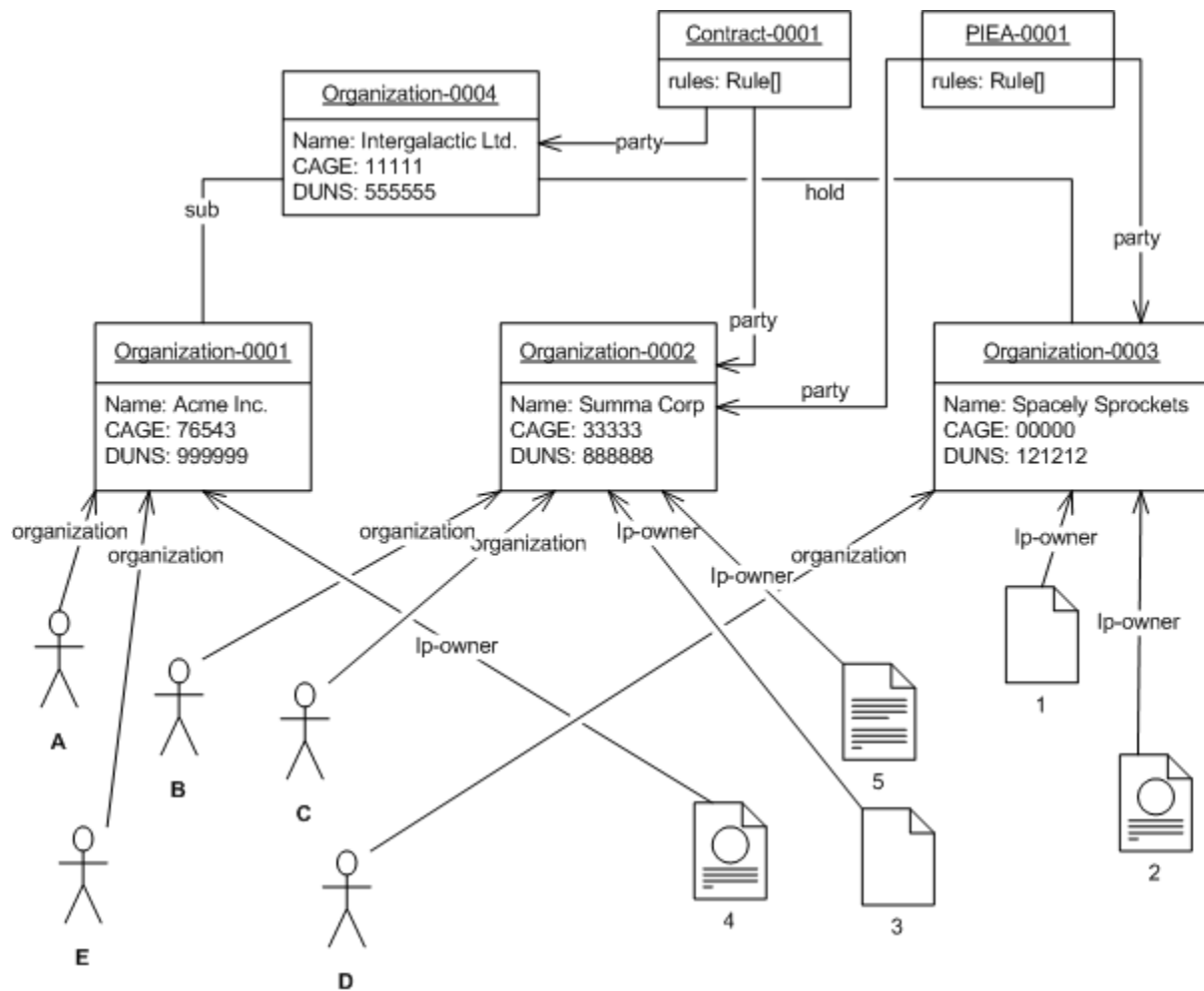
195 Many intellectual property access control decisions can be made on the basis of the resource's
196 **copyright, trademark, patent, proprietary (trade secret),** or other ~~custom~~ classification. This profile
197 defines standard XACML attributes for these properties, and recommends the use of standardized
198 attribute values.

199 In practice, an organization's intellectual property protection policies will be a mixture of rules derived
200 from ~~laws and regulations~~ legal agreements, along with enterprise-specific ~~rules derived from policies and~~
201 ~~government-approved bilateral or multilateral agreements with other organizations~~ regulations.

202 1.6 Use cases

203 PDPs (Policy Decision Points) may need to consider intellectual property protection schemes when
204 evaluating authorization decisions. This profile is designed to provide a framework of additional
205 <Attributes> for such decisions.

206 Refer to Figure 1 for an illustration of a typical scenario in which IP protection is a concern.



207

208 Figure 1 Typical IP scenario (Organization names, CAGE [five position code that identifies contractors
 209 doing business with the United States Government, NATO member nations, and other foreign
 210 governments.], and DUNS [a system developed and regulated by Dun & Bradstreet

211 Copyright use case: an authorization decision depends on whether or not the resource in question is
 212 protected by copyright.

213

214 Trademark use case: an authorization decision depends on whether or not the resource in question is a
 215 designated trademark.

216

217 Patent use case: an authorization decision depends whether or not the resource in question is protected by a patent.
 218 (D&B), that assigns a unique numeric identifier, referred to as a "DUNS number" to a single business
 219 entity.] are fictional.)

220 From Figure 1, the questions arise: which of people A-E can see which of documents 1-5? The goal of
 221 this profile is to support the creation of interoperable XACML policies that permit and deny access as
 222 intended by the prevailing business rules. One such rule might be: "If the subject's organization
 223 matches the resource's IP-Owner, then Permit." Another might be "If the subject and resource are
 224 covered by the same agreement-identifier, then Permit."

225 The conditions that determine IP access include properties and relationships of entities remotely related
 226 to the subjects and resources involved in an IP transaction. XACML relies on data-valued attributes
 227 directly attached to subjects and resource. Therefore, the complex object structure representing the real
 228 world must be condensed to data values of attributes in the XACML categories. For example, a XACML

229 request context for subject A might have organization="999999" and agreement-
230 identifier="Contract-0001". In this case, one particular attribute of the organization object
231 representing "Acme Inc." has been selected to fill the XACML IP subject:organization attribute
232 value. The multiple object relationships from person A to Contract-0001 have been telescoped into the
233 single string value, "Contract-0001", of the subject:agreement-identifier attribute. This
234 "flattening" process is somewhat arbitrary; however, it must not introduce ambiguity, and may be
235 influenced by performance or implementation considerations. Some of the attributes specified in this
236 profile represent some such flattening process, and assume the existence of some types of remote
237 objects that may not be represented directly in an XACML context.

238 ~~Patent designation may follow.~~

239

240 ~~Trade secret use case: an authorization decision depends whether or not the resource in question is~~
241 ~~designated as a trade secret.~~

242

243 ~~PII use case: an authorization decision depends whether or not the resource in question is designated as~~
244 ~~personally identifiable information.~~

245

246 ~~Third-party proprietary: an authorization decision depends whether or not the resource in question is~~
247 ~~designated as a third-party proprietary resource.~~

248

249 ~~License: a calling PEP may need to log that a particular license applies to the authorization decision~~
250 ~~rendered by the PDP.~~

251

252 **1.7 Disclaimer**

253 NOTHING IN THIS PROFILE IS INTENDED TO BE A LEGALLY CORRECT INTERPRETATION OR
254 APPLICATION OF U.S. OR ANY GOVERNMENT INTELLECTUAL PROPERTY LAWS OR
255 REGULATIONS. USE OF THIS PROFILE IN AN ACCESS CONTROL SYSTEM DOES NOT
256 CONSTITUTE COMPLIANCE WITH ANY INTELLECTUAL PROPERTY **PROTECTION**
257 **REQUIREMENTS, REGULATIONS, OR** RESTRICTIONS. THIS PROFILE HAS NOT BEEN REVIEWED
258 OR ENDORSED BY THE U.S. OR ANY OTHER GOVERNMENT AGENCIES RESPONSIBLE FOR
259 ENFORCING INTELLECTUAL PROPERTY LAWS, NOR BY ANY LEGAL EXPERT IN THIS FIELD.

260 Organizations that use this profile should ensure their intellectual property protection by engaging
261 qualified professional legal services.

262 2 Profile

263 2.1 Resource Attributes

264 ~~2.1.1 IPC-Type~~

265 ~~Information objects may contain more than one type of intellectual property. Therefore, it is possible that~~
266 ~~information objects may have more than one IP type categorization: copyright, patent, proprietary, public~~
267 ~~domain, or trademark. In cases where information objects have more than one true value for the IP type~~
268 ~~resource attributes, policy authors may utilize policies and policy sets with the appropriate combining~~
269 ~~algorithms to determine which policies take precedence in the evaluation process. A table listing IP type~~
270 ~~categorization overlaps is provided in Appendix B.~~

271 2.1.1 Copyright

272 The ~~IPC-Type classification~~Copyright value shall be designated with the following attribute identifier:

273 `urn:oasis:names:tc:xacml:3.0:ipc:resource:ipe-typecopyright`

274 The DataType of this attribute is <http://www.w3.org/2001/XMLSchema#boolean>. This attribute
275 ~~data may contain multiple values. Examples of acceptable values of~~denotes whether the attribute SHALL
276 be "PUBLIC", "PII", "COPYRIGHT", "TRADEMARK", "PATENT", "TRADESECRET", "PROPRIETARY", or
277 "THIRD-PARTY PROPRIETARY". Other values may also be defined later, depending on an
278 organization's authorization needs.resource is designated as the intellectual property type "copyright".

279 2.1.2 Patent

280 The Patent value shall be designated with the following attribute identifier:

281 `urn:oasis:names:tc:xacml:3.0:ipc:resource:patent`

282 The DataType of this attribute is <http://www.w3.org/2001/XMLSchema#boolean>
283 "THIRD-PARTY PROPRIETARY" may introduce ambiguity in a federated authorization model. In that
284 case, "PROPRIETARY" with a corresponding IP-Owner value SHOULD be used to distinguish IP-owned
285 by an entity other than the PDP's home organization.

286 ~~2.1.2 IPC-Data~~

287 ~~IPC-Data classification values. This attribute denotes whether the resource is designated as the~~
288 ~~intellectual property type "patent".~~

289 2.1.3 Proprietary

290 The Proprietary value shall be designated with the following attribute identifier:

291 `urn:oasis:names:tc:xacml:3.0:ipc:resource:ipe-dataproprietary`

292 The DataType of this attribute is <http://www.w3.org/2001/XMLSchema#boolean>. This attribute
293 ~~data may contain multiple values. The purpose of this attribute is to convey additional data about~~denotes
294 whether the resource is designated as the intellectual property resource, such as author names, patent
295 numbers, type "proprietary-tracking information, etc.".

296 2.1.4 Public-Domain

297 The Public-Domain value shall be designated with the following attribute identifier:

298 `urn:oasis:names:tc:xacml:3.0:ipc:resource:public-domain`

299 The DataType of this attribute is <http://www.w3.org/2001/XMLSchema#boolean>. This attribute
300 denotes whether the resource is designated as the intellectual property type “public domain”.

301 **2.1.5 Trademark**

302 The Trademark value shall be designated with the following attribute identifier:

303 `urn:oasis:names:tc:xacml:3.0:ipc:resource:trademark`

304 The DataType of this attribute is <http://www.w3.org/2001/XMLSchema#boolean>. This attribute
305 denotes whether the resource is designated as the intellectual property type “trademark”.

306 **2.1.32.1.6 IP-Owner**

307 IP-Owner classification values shall be designated with the following attribute identifier:

308 `urn:oasis:names:tc:xacml:3.0:ipc:resource:ip-owner`

309 The DataType of this attribute is <http://www.w3.org/2001/XMLSchema#string>. ~~This attribute~~
310 ~~data may contain multiple values.~~ This attribute names the owner of the IP. A common scheme such as
311 DUNS SHOULD be used to promote interoperability. The range of values for this attribute SHOULD be
312 similar to that of the IP-Designee and Organization resource attributes.

313 **2.1.42.1.7 IP-Designee**

314 IP-Designee classification values shall be designated with the following attribute identifier:

315 `urn:oasis:names:tc:xacml:3.0:ipc:resource:ip-designee`

316 The DataType of this attribute is <http://www.w3.org/2001/XMLSchema#string>. ~~This attribute~~
317 ~~data may contain multiple values.~~ This attribute names the designated custodian of the IP. A common
318 scheme such as DUNS SHOULD be used to promote interoperability. The range of values for this
319 attribute SHOULD be similar to that of the IP-Owner and Organization resource attributes.

320 **2.1.5 License**

321 **2.1.8 LicenseAgreement-Type**

322 Agreement-Type classification values shall be designated with the following attribute identifier:

323 `urn:oasis:names:tc:xacml:3.0:ipc:resource:licenseagreement-type`

324 The DataType of this attribute is <http://www.w3.org/2001/XMLSchema#anyURI>. ~~This attribute~~
325 ~~data may contain multiple values.~~

326 This attribute can be used to indicate whether or not a specific resource is governed by a particular
327 license arrangement.

328 **2.21.1 Subject Attributes**

329 **2.2.1 Nationality**

330 Nationality classification~~The range of URN~~ values shall be designated with the following of this attribute
331 identifier: ~~SHALL be~~

332 `urn:oasis:names:tc:xacml:3.0:ipc:subject:nationalityresource:agreement`
333 `-type:non-disclosure-agreement`

334 The DataType of this attribute is . This attribute data may contain multiple values. The value of this
335 attribute MUST be in the range of 2-letter country codes defined by **[ISO3166]**.

336 Nationality shall denote the country in which the subject currently has legal status as a “national” or
337 citizen.

338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377

2.2.2 Organization

Organization classification values shall be designated with the following attribute identifier:

```
urn:oasis:names:tc:xacml:3.0:ipc:subject:organizationresource:agreement-  
t-type:proprietary-information-agreement
```

~~The DataType of this attribute is . This attribute data may contain multiple values.~~

~~Organization shall denote the organization to which the subject in the request belongs. A common scheme such as DUNS SHOULD be used to promote interoperability.~~

2.3 Environment Attributes

2.3.1 Location

Location classification values shall be designated with the following attribute identifier:

```
urn:oasis:names:tc:xacml:3.0:ipc:environment:locationresource:agreement-  
t-type:technical-data-grant
```

~~The DataType of this attribute is . This attribute data should have a single value.~~

2.4 Action Attributes

2.4.1 Read

Read classification values shall be designated with the following attribute identifier:

```
urn:oasis:names:tc:xacml:3.0:ipc:action:readresource:agreement-  
type:copyright-grant
```

~~The DataType of this attribute is <http://www.w3.org/2001/XMLSchema#boolean>.~~

2.4.2 Edit

Edit classification values shall be designated with the following attribute identifier:

```
urn:oasis:names:tc:xacml:3.0:ipc:action:editresource:agreement-  
type:patent-grant  
urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-type:trademark-  
grant  
urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-type:cross-  
licensing-grant  
urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-type:royalty-  
bearing
```

2.1.9 Agreement-Id

The business document representing the IP agreement that covers this resource shall be designated with the following attribute identifier.

```
urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-id
```

The DataType of this attribute is

<http://www.w3.org/2001/XMLSchema#string>~~<http://www.w3.org/2001/XMLSchema#boolean>.~~

2.4.3 Storage

~~Storage classification~~One scenario in which this attribute can be used is in the case where one or more resource documents are *tagged* with metadata associated with the resource and one such tag represents the agreement id. In this scenario it is assumed that there is only one agreement that covers those

378 resources. An alternative scenario is to let the policy determine the appropriate agreement associated
379 with the resource authorization request. In this alternative scenario the resource agreement-id attribute
380 would not be used in the XACML request.

381 **2.1.10 Effective-Date**

382 Effective-date values shall be designated with the following attribute identifier:

383 urn:oasis:names:tc:xacml:3.0:ipc:~~action:storage~~resource:effective-date

384 The DataType of this attribute is

385 <http://www.w3.org/2001/XMLSchema#date>~~http://www.w3.org/2001/XMLSchema#boolean~~.

386 **2.4.4 Physical transmission**

387 ~~Physical transmission classification~~This attribute can be used to indicate the date and time in which an
388 intellectual property license takes effect, thereby implying access for authorized purposes. This attribute
389 may also convey the date and time in which other resource attributes become valid; for example, when a
390 copyright or patent is granted.

391

392 **2.1.11 Expiration-Date**

393 Expiration-date values shall be designated with the following attribute identifier:

394 urn:oasis:names:tc:xacml:3.0:ipc:~~action:physical-~~
395 ~~transmission~~resource:expiration-date

396 The DataType of this attribute is

397 <http://www.w3.org/2001/XMLSchema#date>~~http://www.w3.org/2001/XMLSchema#boolean~~.

399 ~~The best example of this type of action would be printing~~date and time in which an intellectual property
400 license expires, thereby terminating access. This attribute may also convey the date and time in which
401 other resource attribute elements are no longer valid; for example, when a copyright or patent expires.

402

403 **2.2 Subject Attributes**

404 **2.4.5 Electronic transmission**

405 **2.2.1 Electronic transmission**Organization

406 Organization classification values shall be designated with the following attribute identifier:

407 urn:oasis:names:tc:xacml:3.0:ipc:~~action:electronic-~~
408 ~~transmission~~subject:organization

409 The DataType of this attribute is <http://www.w3.org/2001/XMLSchema#string>. ~~This~~

410 Organization shall denote the organization with which the subject in the request is affiliated. More
411 specifically, this attribute data may contain multiple should denote the organization or organizations that
412 have a controlling interest in the subject's intellectual property rights and responsibilities with respect to
413 the current request. A common scheme such as DUNS SHOULD be used to promote interoperability.
414 Whichever range of values—Examples of this action would be emailing, file transfer, or moving from one
415 electronic location to another is chosen, it should coincide with the range of IP-Owner and IP-Designee.

416 2.2.2 EncryptionOrganization-Type

417 2.4.6 The type

418 ~~Encryption type classification values shall of the subject's organization (designated by the~~
419 ~~organization attribute), for the purpose of intellectual property rights, SHALL be designated with the~~
420 ~~following attribute identifier:~~

```
421 urn:oasis:names:tc:xacml:3.0:ipc:action:encryptionsubject:organization  
422 -type
```

423 The DataType of this attribute is <http://www.w3.org/2001/XMLSchema#anyURI>. ~~This attribute~~
424 ~~data may contain multiple values. Examples of valid data would be AES128-CBC, RSA2048, etc.~~

425 **Marking**

426 ~~Recommended URN Marking classification values shall be designated with the following for this~~ attribute
427 ~~identifier are:~~

```
428 urn:oasis:names:tc:xacml:3.0:ipc:action:markingsubject:organization-  
429 type:commercial  
430 urn:oasis:names:tc:xacml:3.0:ipc:subject:organization-type:non-profit  
431 urn:oasis:names:tc:xacml:3.0:ipc:subject:organization-type:government
```

432 ~~This profile does not specify how to interpret the meaning of multiple values of organization-type in~~
433 ~~a request context containing multiple values of organization.~~

434 2.2.3 Organizational-Relationship

435 ~~The organizational relationship of the subject's organization (identified by the organization attribute) to~~
436 ~~the organization that owns the resource (identified by the ip-owner attribute) SHALL be designated with~~
437 ~~the following attribute identifier:~~

```
438 urn:oasis:names:tc:xacml:3.0:ipc:subject:organizational-relationship
```

439 The DataType of this attribute is <http://www.w3.org/2001/XMLSchema#anyURI>. ~~This~~

440 ~~Recommended URN values for this attribute data may contain are:~~

```
441 urn:oasis:names:tc:xacml:3.0:ipc:subject:organizational-  
442 relationship:customer  
443 urn:oasis:names:tc:xacml:3.0:ipc:subject:organizational-  
444 relationship:supplier  
445 urn:oasis:names:tc:xacml:3.0:ipc:subject:organizational-  
446 relationship:partner  
447 urn:oasis:names:tc:xacml:3.0:ipc:subject:organizational-  
448 relationship:primary-contractor  
449 urn:oasis:names:tc:xacml:3.0:ipc:subject:organizational-  
450 relationship:subcontractor  
451 urn:oasis:names:tc:xacml:3.0:ipc:subject:organizational-  
452 relationship:authorized-sublicensor
```

453 ~~This profile does not specify how to interpret the meaning of multiple values. Examples of marks could be~~
454 ~~"Proprietary", "Confidential", etc. Other schemes may refer to this activity as "labeling", but marking and~~
455 ~~labeling are considered synonymous for these purposes of organizational-relationship in a~~
456 ~~request context containing multiple values of organization or ip-owner.~~

2.4.7 Disposal

2.2.4 DisposalAffiliation-Type

This attribute identifies the type of affiliation that the subject of the request has with the organization identified by the `organization` attribute. `Affiliation-Type` classification values shall be designated with the following attribute identifier:

```
urn:oasis:names:tc:xacml:3.0:ipc:action:disposalsubject:affiliation-type
```

The `DataType` of this attribute is <http://www.w3.org/2001/XMLSchema#anyURI>. ~~This~~

Implementors can create sub-categories of `affiliation-type` to represent roles or functions within their organizations. Some recommended values of the attribute `data` SHALL be

```
urn:oasis:names:tc:xacml:3.0:ipc:subject:affiliation-type:employee  
urn:oasis:names:tc:xacml:3.0:ipc:subject:affiliation-type:contractor
```

A request context may contain multiple values for this attribute; however, this profile does not specify how to interpret the meaning of multiple values of `affiliation-type` in a request context containing multiple values of `organization`.

2.2.5 Agreement-Id

The business document representing the IP agreement that covers this subject shall be designated with the following attribute identifier.

```
urn:oasis:names:tc:xacml:3.0:ipc:subject:agreement-id
```

The `DataType` of this attribute is <http://www.w3.org/2001/XMLSchema#string>. ~~An~~

2.3 Obligations

The `<Obligation>` element will be used in the XACML response to notify requestor that additional processing requirements are needed. This profile focuses on the use of obligations to encryption and visual marking. The XACML response may contains one or more obligations. Processing of an obligation is application specific. An `<Obligation>` may contain the object (resource) action pairing information. If multiple vocabularies are used for resource definitions the origin of the vocabulary MUST be identified.

The obligation should conform to following structure:

```
urn:oasis:names:tc:xacml:3.0:ipc:obligation
```

2.3.1 Encrypt

The Encrypt obligation shall be designated with the following identifier:

```
urn:oasis:names:tc:xacml:3.0:ipc:obligation:encrypt
```

The encrypt obligation can be used to command PEPs (Policy Enforcement Points) to encrypt the resource. This profile does not specify the type of encryption or other parameters to be used; rather, the details of implementation are left to the discretion of policy authors and software developers as to how to best meet their individual requirements.

The following is an example of a disposal value would be "delete" in the case of electronic storage. Additional disposal related actions may be defined as obligations. the Encrypt obligation:

```
<ObligationExpressions>  
  <ObligationExpression  
    ObligationId="urn:oasis:names:tc:xacml:3.0:ipc:obligation:encrypt"  
    FulfillOn="Permit"/>  
</ObligationExpression>  
</ObligationExpressions>
```

502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530

2.4.8 ~~Marking~~ Authority

2.3.2 Authority

~~Marking~~ classification values shall be designated with the following ~~attribute~~ identifier:

```
urn:oasis:names:tc:xacml:3.0:ipc:action:authorityobligation:marking
```

~~The marking obligation can be used to command PEPs (Policy Enforcement Points) to embed visual marks, sometimes called watermarks, on data viewed both on-screen and in printed form. Policy authors may use this obligation to meet legal or contractual requirements by forcing PEPs to display text or graphics in accordance with <Permit> decisions. This profile does not specify the text or graphics which can be rendered; rather, the details of implementation are left to the discretion of policy authors as to how to best meet their individual requirements.~~

~~The following is an example of the marking obligation:~~

```
<ObligationExpressions>  
  <ObligationExpression  
    ObligationId="urn:oasis:names:tc:xacml:3.0:ipc:obligation:marking"  
    FulfillOn="Permit">  
    <AttributeAssignmentExpression  
      AttributeId="urn:oasis:names:tc:xacml:3.0:example:attribute:text">  
      <AttributeValue  
        AttributeId="urn:oasis:names:tc:xacml:2.0:example:attribute:text"
```

```
        DataType="http://www.w3.org/2001/XMLSchema#string"  
      ></AttributeValue>  
    </AttributeAssignmentExpression>  
  </ObligationExpression>  
</ObligationExpressions>
```

~~The DataType of this attribute is-. This attribute data may contain multiple values.~~

~~This attribute can be used to describe the associated contract or statement of work authorizing the access. Other types of values could be used depending on an organization's needs.~~

```
"  
  >Copyright 2011 Acme</AttributeValue>  
</AttributeAssignmentExpression>  
</ObligationExpression>  
</ObligationExpressions>
```

531 **3 Identifiers**

532 This profile defines the following URN identifiers.

533 **3.1 Profile Identifier**

534 The following identifier SHALL be used as the identifier for this profile when an identifier in the form of a
535 URI is required.

536 | `urn:oasis:names:tc:xacml:3.0:profiles-ipc`

4 Examples (non-normative)

This section contains examples of how the profile attributes can be used.

4.1 Copyright

This example illustrates the use of a copyright for the following scenario:

ip-owner (Acme) grants ip-designee (Wiley Corp) the right to use copyrighted materials (software, images, multimedia) for a limited time in exchange for fees. ip-designee must protect licensed material from unauthorized usage.

<u>Subject attributes</u>	<u>Resource attributes</u>	<u>Obligations</u>
<u>organization: Wiley Corp</u>	<u>copyright: true</u>	<u>encrypt</u>
<u>affiliation-type: customer</u>	<u>ip-owner: Acme</u>	<u>marking: Copyright 2011 Acme</u>
<u>agreement-id: CR101</u>	<u>ip-designee: Wiley Corp</u>	
	<u>agreement-type: copyright-grant</u>	
	<u>agreement-id: CR101</u>	
	<u>effective-date: 2011-07-01T00:00:00</u>	
	<u>expiration-date: 2021-06-30T00:00:00</u>	

4.1.1 Copyright Request

```
<Request ReturnPolicyIdList="true"
  CombinedDecision="false"
  xmlns="urn:oasis:names:tc:xacml:3.0:core:schema:wd-17">
  <Attributes Category="urn:oasis:names:tc:xacml:1.0:subject-category:access-subject">
    <Attribute
      AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:subject:organization"
      IncludeInResult="true">
      <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string"
        >Wiley Corp</AttributeValue>
    </Attribute>
    <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:subject:affiliation-type"
      IncludeInResult="true">
      <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#anyURI"
        >urn:oasis:names:tc:xacml:3.0:ipc:subject:affiliation-
type:customer</AttributeValue>
    </Attribute>
    <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:subject:agreement-id"
      IncludeInResult="true">
      <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string"
        >CR101</AttributeValue>
    </Attribute>
  </Attributes>
  <Attributes Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource">
    <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:copyright"
      IncludeInResult="true">
      <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#boolean"
        >true</AttributeValue>
    </Attribute>
    <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:ip-owner"
      IncludeInResult="true">
      <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string"
```

```
579 >Acme</AttributeValue>
580 </Attribute>
581 <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:ip-designee"
582 IncludeInResult="true">
583 <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string"
584 >Wiley Corp</AttributeValue>
585 </Attribute>
586 <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-type"
587 IncludeInResult="true">
588 <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#anyURI"
589 >urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-type:copyright-
590 grant</AttributeValue>
591 </Attribute>
592 <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-id"
593 IncludeInResult="true">
594 <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string"
595 >CR101</AttributeValue>
596 </Attribute>
597 <Attribute
598 AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:effective-date"
599 IncludeInResult="true">
600 <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#dateTime"
601 >2011-07-01T00:00:00</AttributeValue>
602 </Attribute>
603 <Attribute
604 AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:expiration-date"
605 IncludeInResult="true">
606 <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#dateTime"
607 >2021-06-30T00:00:00</AttributeValue>
608 </Attribute>
609 </Attributes>
610 </Request>
```

611 **4.1.2 Copyright Policy**

612 This policy can be summarized as follows:

613

614 **Target:** This policy is only applicable to resource type copyright

615 AND the agreement-type copyright-grant

616

617 **Rule:** This rule is only applicable if Resource ip-owner = Acme

618 Then if

619 Subject organization = Wiley Corp AND

620 Subject agreement-id = Resource agreement-id (CR101, in this case) AND

621 Resource ip-designee = Wiley Corp AND

622 "Date and Time" is in the range of effective-date and expiration-date

623 Then PERMIT

624

625 **Obligation:**

626 On PERMIT mark AND encrypt the resource.

627

```

628 <Policy xmlns="urn:oasis:names:tc:xacml:3.0:core:schema:wd-17"
629     PolicyId="copyright-approve"
630     RuleCombiningAlgId="urn:oasis:names:tc:xacml:1.0:rule-combining-algorithm:deny-
631 overrides"
632     Version="1">
633 <Description>Example access control policy for copyright material</Description>
634 <Target>
635 <AnyOf>
636 <AllOf>
637 <Match MatchId="urn:oasis:names:tc:xacml:1.0:function:boolean-equal">
638 <AttributeValue DataType=http://www.w3.org/2001/XMLSchema#boolean
639 >true</AttributeValue>
640 <AttributeDesignator
641 AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:copyright"
642 Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
643 DataType="http://www.w3.org/2001/XMLSchema#boolean"
644 MustBePresent="false"/>
645 </Match>
646 <Match MatchId="urn:oasis:names:tc:xacml:1.0:function:anyURI-equal">
647 <AttributeValue DataType=http://www.w3.org/2001/XMLSchema#anyURI
648 >urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-type:copyright-
649 grant</AttributeValue>
650 <AttributeDesignator
651 AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-type"
652 Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
653 DataType="http://www.w3.org/2001/XMLSchema#anyURI"
654 MustBePresent="false"/>
655 </Match>
656 </AllOf>
657 </AnyOf>
658 </Target>
659 <Rule Effect="Permit" RuleId="Right to use copyrighted material match">
660 <Description>Allow if subject's association to the designated custodian of the
661 copyright agrees</Description>
662 <Target>
663 <AnyOf>
664 <AllOf>
665 <Match MatchId="urn:oasis:names:tc:xacml:1.0:function:string-equal">
666 <AttributeValue DataType=http://www.w3.org/2001/XMLSchema#string
667 >Acme</AttributeValue>
668 <AttributeDesignator
669 AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:ip-owner"
670 Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
671 DataType="http://www.w3.org/2001/XMLSchema#string"
672 MustBePresent="false"/>
673 </Match>
674 </AllOf>
675 </AnyOf>
676 </Target>
677 <Condition>
678 <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:and">
679 <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-equal">
680 <AttributeValue DataType=http://www.w3.org/2001/XMLSchema#string
681 >Wiley Corp</AttributeValue>
682 <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-one-and-only">
683 <AttributeDesignator
684 AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:subject:organization"
685 Category="urn:oasis:names:tc:xacml:1.0:subject-category:access-subject"
686 DataType="http://www.w3.org/2001/XMLSchema#string"
687 MustBePresent="false"/>
688 </Apply>
689 </Apply>
690 <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-equal">
691 <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-one-and-only">
692 <AttributeDesignator
693 AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:subject:agreement-id"
694 Category="urn:oasis:names:tc:xacml:1.0:subject-category:access-subject"
695 DataType="http://www.w3.org/2001/XMLSchema#string"
696 MustBePresent="false"/>
697 </Apply>
698 </Apply>
699 <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-one-and-only">
700 <AttributeDesignator

```

```

701         AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-id"
702         Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
703         DataType="http://www.w3.org/2001/XMLSchema#string"
704         MustBePresent="false"/>
705     </Apply>
706 </Apply>
707     <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-equal">
708         <AttributeValue DataType=http://www.w3.org/2001/XMLSchema#string
709             >Wiley Corp</AttributeValue>
710         <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-one-and-only">
711             <AttributeDesignator
712                 AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:ip-designee"
713                 Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
714                 DataType="http://www.w3.org/2001/XMLSchema#string"
715                 MustBePresent="false"/>
716             </Apply>
717         </Apply>
718     </Apply>
719     <Apply
720         FunctionId="urn:oasis:names:tc:xacml:1.0:function:dateTime-greater-than-or-equal">
721         <Apply
722             FunctionId="urn:oasis:names:tc:xacml:1.0:function:dateTime-one-and-only">
723             <AttributeDesignator
724                 AttributeId="urn:oasis:names:tc:xacml:1.0:environment:current-dateTime"
725                 Category="urn:oasis:names:tc:xacml:3.0:attribute-category:environment"
726                 DataType="http://www.w3.org/2001/XMLSchema#dateTime"
727                 MustBePresent="false"/>
728             </Apply>
729             <Apply
730                 FunctionId="urn:oasis:names:tc:xacml:1.0:function:dateTime-one-and-only">
731                 <AttributeDesignator
732                     AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:effective-date"
733                     Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
734                     DataType="http://www.w3.org/2001/XMLSchema#dateTime"
735                     MustBePresent="false"/>
736                 </Apply>
737             </Apply>
738             <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:dateTime-less-than">
739                 <Apply
740                     FunctionId="urn:oasis:names:tc:xacml:1.0:function:dateTime-one-and-only">
741                     <AttributeDesignator
742                         AttributeId="urn:oasis:names:tc:xacml:1.0:environment:current-dateTime"
743                         Category="urn:oasis:names:tc:xacml:3.0:attribute-category:environment"
744                         DataType="http://www.w3.org/2001/XMLSchema#dateTime"
745                         MustBePresent="false"/>
746                     </Apply>
747                     <Apply
748                         FunctionId="urn:oasis:names:tc:xacml:1.0:function:dateTime-one-and-only">
749                         <AttributeDesignator
750                             AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:expiration-date"
751                             Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
752                             DataType="http://www.w3.org/2001/XMLSchema#dateTime"
753                             MustBePresent="false"/>
754                         </Apply>
755                     </Apply>
756                 </Condition>
757             </Rule>
758     <ObligationExpressions>
759         <ObligationExpression
760             ObligationId="urn:oasis:names:tc:xacml:3.0:ipc:obligation:marking"
761             FulfillOn="Permit">
762             <AttributeAssignmentExpression
763                 AttributeId="urn:oasis:names:tc:xacml:3.0:example:attribute:text">
764                 <AttributeValue DataType=http://www.w3.org/2001/XMLSchema#string
765                     >Copyright 2011 Acme</AttributeValue>
766                 </AttributeAssignmentExpression>
767             </ObligationExpression>
768         <ObligationExpression
769             ObligationId="urn:oasis:names:tc:xacml:3.0:ipc:obligation:encrypt"
770             FulfillOn="Permit">
771             </ObligationExpression>
772     </ObligationExpressions>
773 </Policy>

```


774
775
776
777
778

4.2 Trademark

This example illustrates the use of a trademark for the following scenario:

ip-owner (Acme) grants ip-designee (Wiley Foundation), a charitable organization, the right to use their trademark logo for a limited time. ip-designee must protect licensed material from unauthorized usage.

<u>Subject attributes</u>	<u>Resource attributes</u>	<u>Obligations</u>
<u>organization: Wiley Foundation</u>	<u>trademark: true</u>	<u>Marking: Acme</u>
<u>affiliation-type: non-profit</u>	<u>ip-owner: Acme</u>	
<u>agreement-id: CR102</u>	<u>ip-designee: Wiley Foundation</u>	
	<u>agreement-type: trademark-grant</u>	
	<u>agreement-id: CR102</u>	
	<u>effective-date: 2011-07-01T00:00:00</u>	
	<u>expiration-date: 2021-06-30T00:00:00</u>	

779

4.2.1 Trademark Request

780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823

```
<Request ReturnPolicyIdList="true"
  CombinedDecision="false"
  xmlns="urn:oasis:names:tc:xacml:3.0:core:schema:wd-17">
  <Attributes Category="urn:oasis:names:tc:xacml:1.0:subject-category:access-subject">
    <Attribute
      AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:subject:organization"
      IncludeInResult="true">
      <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string">
        >Wiley Foundation</AttributeValue>
      </Attribute>
      <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:subject:affiliation-type"
        IncludeInResult="true">
        <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#anyURI">
          >urn:oasis:names:tc:xacml:3.0:ipc:subject:affiliation-type:non-
profit</AttributeValue>
        </Attribute>
        <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:subject:agreement-id"
          IncludeInResult="true">
          <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string">
            >CR102</AttributeValue>
          </Attribute>
        </Attributes>
        <Attributes Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource">
          <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:trademark"
            IncludeInResult="true">
            <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#boolean">
              >true</AttributeValue>
            </Attribute>
            <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:ip-owner"
              IncludeInResult="true">
              <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string">
                >Acme</AttributeValue>
              </Attribute>
              <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:ip-designee"
                IncludeInResult="true">
                <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string">
                  >Wiley Corp</AttributeValue>
                </Attribute>
                <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-type"
                  IncludeInResult="true">
                  <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#anyURI">
                    >urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-type:trademark-
grant</AttributeValue>
                  </Attribute>
```

```

824 <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-id"
825 <IncludeInResult="true">
826 <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string"
827 >CR102</AttributeValue>
828 </Attribute>
829 <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:effective-date"
830 <IncludeInResult="true">
831 <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#dateTime"
832 >2011-07-01T00:00:00</AttributeValue>
833 </Attribute>
834 <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:expiration-date"
835 <IncludeInResult="true">
836 <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#dateTime"
837 >2021-06-30T00:00:00</AttributeValue>
838 </Attribute>
839 </Attributes>
840 </Request>

```

841 4.2.2 Trademark Policy

842 This policy can be summarized as follows:

843
844 **Target:** This policy is only applicable to resource type “trademark” AND ip-owner = “Acme”

845
846 **Rule:** This rule is only applicable if Subject organization = Wiley Foundation AND
847 Then if

848 Subject agreement-id = Resource agreement-id (CR102, in this case) AND
849 “Date and Time” is in the range of effective-date and expiration-date THEN

850 PERMIT

851
852 **Obligation:**

853 On PERMIT mark the resource.

```

854  

855 <Policy xmlns="urn:oasis:names:tc:xacml:3.0:core:schema:wd-17"
856 <PolicyId="trademark-approve"
857 <RuleCombiningAlgId="urn:oasis:names:tc:xacml:1.0:rule-combining-algorithm:deny-
858 overrides"
859 <Version="1">
860 <Description>Example rights to use trademark policy</Description>
861 <Target>
862 <AnyOf>
863 <AllOf>
864 <Match MatchId="urn:oasis:names:tc:xacml:1.0:function:boolean-equal">
865 <AttributeValue DataType=http://www.w3.org/2001/XMLSchema#boolean
866 >true</AttributeValue>
867 <AttributeDesignator
868 AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:trademark"
869 Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
870 DataType="http://www.w3.org/2001/XMLSchema#boolean"
871 MustBePresent="false"/>
872 </Match>
873 <Match MatchId="urn:oasis:names:tc:xacml:1.0:function:string-equal">
874 <AttributeValue DataType=http://www.w3.org/2001/XMLSchema#string
875 >Acme</AttributeValue>
876 <AttributeDesignator
877 AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:ip-owner"
878 Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
879 DataType="http://www.w3.org/2001/XMLSchema#string"
880 MustBePresent="false"/>
881 </Match>
882 </AllOf>
883 </AnyOf>

```

```

884 </Target>
885 <VariableDefinition VariableId="acme-agreement-id">
886 <AttributeValue DataType=http://www.w3.org/2001/XMLSchema#string
887 >CR102</AttributeValue>
888 </VariableDefinition>
889 <Rule Effect="Permit" RuleId="Rights to use trademark match">
890 <Description>Allow if the IP owner grants use of trademark logo</Description>
891 <Target>
892 <AnyOf>
893 <AllOf>
894 <Match MatchId="urn:oasis:names:tc:xacml:1.0:function:string-equal">
895 <AttributeValue DataType=http://www.w3.org/2001/XMLSchema#string
896 >Wiley Foundation</AttributeValue>
897 <AttributeDesignator
898 AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:subject:organization"
899 Category="urn:oasis:names:tc:xacml:1.0:subject-category:access-subject"
900 DataType="http://www.w3.org/2001/XMLSchema#string"
901 MustBePresent="false"/>
902 </Match>
903 </AllOf>
904 </AnyOf>
905 </Target>
906 <Condition>
907 <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:and">
908 <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-equal">
909 <VariableReference VariableId="acme-agreement-id"/>
910 <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-one-and-only">
911 <AttributeDesignator
912 AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:subject:agreement-id"
913 Category="urn:oasis:names:tc:xacml:1.0:subject-category:access-subject"
914 DataType="http://www.w3.org/2001/XMLSchema#string"
915 MustBePresent="false"/>
916 </Apply>
917 </Apply>
918 <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-equal">
919 <VariableReference VariableId="acme-agreement-id"/>
920 <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-one-and-only">
921 <AttributeDesignator
922 AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-id"
923 Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
924 DataType="http://www.w3.org/2001/XMLSchema#string"
925 MustBePresent="false"/>
926 </Apply>
927 </Apply>
928 <Apply
929 FunctionId="urn:oasis:names:tc:xacml:1.0:function:dateTime-greater-than-or-equal">
930 <Apply
931 FunctionId="urn:oasis:names:tc:xacml:1.0:function:dateTime-one-and-only">
932 <AttributeDesignator
933 AttributeId="urn:oasis:names:tc:xacml:1.0:environment:current-dateTime"
934 Category="urn:oasis:names:tc:xacml:3.0:attribute-category:environment"
935 DataType="http://www.w3.org/2001/XMLSchema#dateTime"
936 MustBePresent="false"/>
937 </Apply>
938 </Apply>
939 <Apply
940 FunctionId="urn:oasis:names:tc:xacml:1.0:function:dateTime-one-and-only">
941 <AttributeDesignator
942 AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:effective-date"
943 Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
944 DataType="http://www.w3.org/2001/XMLSchema#dateTime"
945 MustBePresent="false"/>
946 </Apply>
947 </Apply>
948 <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:dateTime-less-than">
949 <Apply
950 FunctionId="urn:oasis:names:tc:xacml:1.0:function:dateTime-one-and-only">
951 <AttributeDesignator
952 AttributeId="urn:oasis:names:tc:xacml:1.0:environment:current-dateTime"
953 Category="urn:oasis:names:tc:xacml:3.0:attribute-category:environment"
954 DataType="http://www.w3.org/2001/XMLSchema#dateTime"
955 MustBePresent="false"/>
956 </Apply>
</Apply>

```

```

957         FunctionId="urn:oasis:names:tc:xacml:1.0:function:dateTime-one-and-only">
958         <AttributeDesignator
959             AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:expiration-date"
960             Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
961             DataType="http://www.w3.org/2001/XMLSchema#dateTime"
962             MustBePresent="false"/>
963         </Apply>
964     </Apply>
965 </Apply>
966 </Condition>
967 </Rule>
968 <ObligationExpressions>
969     <ObligationExpression
970         ObligationId="urn:oasis:names:tc:xacml:3.0:ipc:obligation:marking"
971         FulfillOn="Permit" >
972         <AttributeAssignmentExpression
973             AttributeId="urn:oasis:names:tc:xacml:3.0:example:attribute:text">
974             <AttributeValue DataType=http://www.w3.org/2001/XMLSchema#string
975                 >Acme</AttributeValue>
976             </AttributeAssignmentExpression>
977         </ObligationExpression>
978     </ObligationExpressions>
979 </Policy>

```

4.3 Proprietary

This example illustrates the use of a trade secret for the following scenario:

ip-owner (Acme) grants ip-designee (Wiley Corp) the right to use Acme trade secrets, technical drawings in this case, for a limited time for creation of products sold to ip-owner. ip-designee and ip-owner must protect licensed material from unauthorized usage.

Subject attributes	Resource attributes	Obligations
<i>organization: Wiley Corp</i>	<i>proprietary: true</i>	<i>encrypt</i>
<i>organizational-relationship: supplier</i>	<i>ip-owner: Acme</i>	<i>marking: Acme Proprietary Information: Limited Distribution</i>
<i>agreement-id: CR103</i>	<i>ip-designee: Wiley Corp</i>	
	<i>agreement-type: technical-data-grant</i>	
	<i>agreement-id: CR103</i>	
	<i>effective-date: 2011-07-01T00:00:00</i>	
	<i>expiration-date: 2021-06-30T00:00:00</i>	

4.3.1 Proprietary Request

```

987 <Request ReturnPolicyIdList="true"
988     CombinedDecision="false"
989     xmlns="urn:oasis:names:tc:xacml:3.0:core:schema:wd-17">
990     <Attributes Category="urn:oasis:names:tc:xacml:1.0:subject-category:access-subject">
991         <Attribute
992             AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:subject:organization"
993             IncludeInResult="true">
994             <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string"
995                 >Wiley Corp</AttributeValue>
996             </Attribute>
997         <Attribute
998             AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:subject:organizational-relationship"
999             IncludeInResult="true">
1000             <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#anyURI"
1001                 >urn:oasis:names:tc:xacml:3.0:ipc:subject:organizational-
1002             relationship:supplier</AttributeValue>
1003         </Attribute>

```

```

1004     <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:subject:agreement-id"
1005         IncludeInResult="true">
1006         <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string"
1007             >CR103</AttributeValue>
1008     </Attribute>
1009 </Attributes>
1010 <Attributes Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource">
1011     <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:proprietary"
1012         IncludeInResult="true">
1013         <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#boolean"
1014             >true</AttributeValue>
1015     </Attribute>
1016     <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:ip-owner"
1017         IncludeInResult="true">
1018         <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string"
1019             >Acme</AttributeValue>
1020     </Attribute>
1021     <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:ip-designee"
1022         IncludeInResult="true">
1023         <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string"
1024             >Wiley Corp</AttributeValue>
1025     </Attribute>
1026     <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-type"
1027         IncludeInResult="true">
1028         <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#anyURI"
1029             >urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-type:technical-data-
1030 grant</AttributeValue>
1031     </Attribute>
1032     <Attribute AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-id"
1033         IncludeInResult="true">
1034         <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string"
1035             >CR103</AttributeValue>
1036     </Attribute>
1037 </Attribute>
1038     AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:effective-date"
1039     IncludeInResult="true">
1040     <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#dateTime"
1041         >2011-07-01T00:00:00</AttributeValue>
1042 </Attribute>
1043 <Attribute>
1044     AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:expiration-date"
1045     IncludeInResult="true">
1046     <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#dateTime"
1047         >2021-06-30T00:00:00</AttributeValue>
1048 </Attribute>
1049 </Attributes>
1050 </Request>

```

1051

4.3.2 Proprietary Policy

1052 This policy can be summarized as follows:

1053

1054 **Target:** This policy is only applicable to resource type "proprietary" AND ip-owner = Acme

1055

1056 **Rule:** This rule is only applicable if Subject organization = Wiley Foundation AND

1057 organizational-relationship = supplier AND

1058 Resource agreement-type = technical-data-grant

1059

1060 Then if

1061 Resource ip-designee = Wiley Corp AND

1062 Subject agreement-id= Resource agreement-id (CR103, in this case) AND

1063 "Date and Time" is in the range of effective-date and expiration-date

1064

1065
1066
1067
1068
1069
1070
1071
1072
1073
1074
1075
1076
1077
1078
1079
1080
1081
1082
1083
1084
1085
1086
1087
1088
1089
1090
1091
1092
1093
1094
1095
1096
1097
1098
1099
1100
1101
1102
1103
1104
1105
1106
1107
1108
1109
1110
1111
1112
1113
1114
1115
1116
1117
1118
1119
1120
1121
1122
1123
1124
1125
1126
1127
1128
1129
1130
1131
1132
1133

Then PERMIT

Obligation:

On PERMIT mark AND encrypt the resource.

```
<Policy xmlns="urn:oasis:names:tc:xacml:3.0:core:schema:wd-17"
  PolicyId="proprietary-approve"
  RuleCombiningAlgId="urn:oasis:names:tc:xacml:1.0:rule-combining-algorithm:deny-
overrides"
  Version="1">
  <Description>Example rights to use proprietary (trade secret) material</Description>
  <Target>
    <AnyOf>
      <AllOf>
        <Match MatchId="urn:oasis:names:tc:xacml:1.0:function:boolean-equal">
          <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#boolean"
            >true</AttributeValue>
          <AttributeDesignator
            AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:proprietary"
            Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
            DataType="http://www.w3.org/2001/XMLSchema#boolean"
            MustBePresent="false"/>
        </Match>
        <Match MatchId="urn:oasis:names:tc:xacml:1.0:function:string-equal">
          <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string"
            >Acme</AttributeValue>
          <AttributeDesignator
            AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:ip-owner"
            Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
            DataType="http://www.w3.org/2001/XMLSchema#string"
            MustBePresent="false"/>
        </Match>
      </AllOf>
    </AnyOf>
  </Target>
  <Rule Effect="Permit" RuleId="Rights to use match">
    <Description>Allow if ip owner grants right to use technical data</Description>
    <Target>
      <AnyOf>
        <AllOf>
          <Match MatchId="urn:oasis:names:tc:xacml:1.0:function:string-equal">
            <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string"
              >Wiley Corp</AttributeValue>
            <AttributeDesignator
              AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:subject:organization"
              Category="urn:oasis:names:tc:xacml:1.0:subject-category:access-subject"
              DataType="http://www.w3.org/2001/XMLSchema#string"
              MustBePresent="false"/>
          </Match>
          <Match MatchId="urn:oasis:names:tc:xacml:1.0:function:anyURI-equal">
            <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#anyURI"
              >urn:oasis:names:tc:xacml:3.0:ipc:subject:organizational-
relationship:supplier</AttributeValue>
            <AttributeDesignator
              AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:subject:organizational-
relationship"
              Category="urn:oasis:names:tc:xacml:1.0:subject-category:access-subject"
              DataType="http://www.w3.org/2001/XMLSchema#anyURI"
              MustBePresent="false"/>
          </Match>
          <Match MatchId="urn:oasis:names:tc:xacml:1.0:function:anyURI-equal">
            <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#anyURI"
              >urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-type:technical-data-
grant</AttributeValue>
            <AttributeDesignator
              AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-type"
              Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
              DataType="http://www.w3.org/2001/XMLSchema#anyURI"
              MustBePresent="false"/>
          </Match>
        </AllOf>
      </AnyOf>
    </Target>
  </Rule>
</Policy>
```

```

1134     </Match>
1135 </AllOf>
1136 </AnyOf>
1137 </Target>
1138 <Condition>
1139   <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:and">
1140     <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-equal">
1141       <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string
1142         >Wiley Corp</AttributeValue>
1143       <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-one-and-only">
1144         <AttributeDesignator
1145           AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:ip-designee"
1146           Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
1147           DataType="http://www.w3.org/2001/XMLSchema#string"
1148           MustBePresent="false"/>
1149         </Apply>
1150       </Apply>
1151     <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:boolean-equal">
1152     <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-equal">
1153       <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string
1154         >CR103</AttributeValue>
1155       <Apply
1156         FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-one-and-only">
1157         <AttributeDesignator
1158           AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:subject:agreement-id"
1159           Category="urn:oasis:names:tc:xacml:1.0:subject-category:access-subject"
1160           DataType="http://www.w3.org/2001/XMLSchema#string"
1161           MustBePresent="false"/>
1162         </Apply>
1163       </Apply>
1164     <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-equal">
1165       <AttributeValue DataType="http://www.w3.org/2001/XMLSchema#string
1166         >CR103</AttributeValue>
1167     <Apply
1168       FunctionId="urn:oasis:names:tc:xacml:1.0:function:string-one-and-only">
1169       <AttributeDesignator
1170         AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-id"
1171         Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
1172         DataType="http://www.w3.org/2001/XMLSchema#string"
1173         MustBePresent="false"/>
1174       </Apply>
1175     </Apply>
1176   </Apply>
1177 <Apply
1178   FunctionId="urn:oasis:names:tc:xacml:1.0:function:date-time-greater-than-or-equal">
1179   <Apply
1180     FunctionId="urn:oasis:names:tc:xacml:1.0:function:date-time-one-and-only">
1181     <AttributeDesignator
1182       AttributeId="urn:oasis:names:tc:xacml:1.0:environment:current-date-time"
1183       Category="urn:oasis:names:tc:xacml:3.0:attribute-category:environment"
1184       DataType="http://www.w3.org/2001/XMLSchema#dateTime"
1185       MustBePresent="false"/>
1186     </Apply>
1187   <Apply
1188     FunctionId="urn:oasis:names:tc:xacml:1.0:function:date-time-one-and-only">
1189     <AttributeDesignator
1190       AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:effective-date"
1191       Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
1192       DataType="http://www.w3.org/2001/XMLSchema#dateTime"
1193       MustBePresent="false"/>
1194     </Apply>
1195   </Apply>
1196 <Apply FunctionId="urn:oasis:names:tc:xacml:1.0:function:date-time-less-than">
1197 <Apply
1198   FunctionId="urn:oasis:names:tc:xacml:1.0:function:date-time-one-and-only">
1199   <AttributeDesignator
1200     AttributeId="urn:oasis:names:tc:xacml:1.0:environment:current-date-time"
1201     Category="urn:oasis:names:tc:xacml:3.0:attribute-category:environment"
1202     DataType="http://www.w3.org/2001/XMLSchema#dateTime"
1203     MustBePresent="false"/>
1204   </Apply>
1205 <Apply
1206   FunctionId="urn:oasis:names:tc:xacml:1.0:function:date-time-one-and-only">

```

```
1207 <AttributeDesignator
1208   AttributeId="urn:oasis:names:tc:xacml:3.0:ipc:resource:expiration-date"
1209   Category="urn:oasis:names:tc:xacml:3.0:attribute-category:resource"
1210   DataType="http://www.w3.org/2001/XMLSchema#dateTime"
1211   MustBePresent="false"/>
1212 </Apply>
1213 </Apply>
1214 </Apply>
1215 </Condition>
1216 </Rule>
1217 <ObligationExpressions>
1218   <ObligationExpression
1219     ObligationId="urn:oasis:names:tc:xacml:3.0:ipc:obligation:marking"
1220     FulfillOn="Permit">
1221     <AttributeAssignmentExpression
1222       AttributeId="urn:oasis:names:tc:xacml:3.0:example:attribute:text">
1223       <AttributeValue DataType=http://www.w3.org/2001/XMLSchema#string
1224         >Acme Proprietary Information: Limited Distribution</AttributeValue>
1225       </AttributeValue>
1226     </AttributeAssignmentExpression>
1227   </ObligationExpression>
1228   <ObligationExpression
1229     ObligationId="urn:oasis:names:tc:xacml:3.0:ipc:obligation:encrypt"
1230     FulfillOn="Permit">
1231   </ObligationExpression>
1232 </ObligationExpressions>
1233 </Policy>
```


1234
1235
1236

1237
1238
1239
1240
1241
1242

45 Conformance

Conformance to this profile is defined for **policies** and **requests** generated and transmitted within and between XACML systems.

4.15.1 Attribute Identifiers

Conformant XACML **policies** and **requests** SHALL use the attribute identifiers defined in Section 2 for their specified purpose, **and SHALL NOT use any other identifiers for the purposes defined by attributes in this profile.** The following table lists the attributes that must be supported.

Note: "M" is mandatory "O" is optional.

<u>Identifiers</u>	
<u>urn:oasis:names:tc:xacml:3.0:ipc:resource:copyright</u>	<u>M</u>
<u>urn:oasis:names:tc:xacml:3.0:ipc:resource:patent</u>	<u>M</u>
<u>urn:oasis:names:tc:xacml:3.0:ipc:resource:proprietary</u>	<u>M</u>
<u>urn:oasis:names:tc:xacml:3.0:ipc:resource:public-domain</u>	<u>M</u>
<u>urn:oasis:names:tc:xacml:3.0:ipc:resource:trademark</u>	<u>M</u>
<u>urn:oasis:names:tc:xacml:3.0:ipc:resource:ip-owner</u>	<u>M</u>
<u>urn:oasis:names:tc:xacml:3.0:ipc:resource:ip-designee</u>	<u>M</u>
<u>urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-id</u>	<u>M</u>
<u>urn:oasis:names:tc:xacml:3.0:ipc:resource:agreement-type</u>	<u>M</u>
<u>urn:oasis:names:tc:xacml:3.0:ipc:resource:effective-date</u>	<u>M</u>
<u>urn:oasis:names:tc:xacml:3.0:ipc:resource:expiration-date</u>	<u>M</u>
<u>urn:oasis:names:tc:xacml:3.0:ipc:subject:organization</u>	<u>M</u>
<u>urn:oasis:names:tc:xacml:3.0:ipc:subject:organizational-relationship</u>	<u>M</u>
<u>urn:oasis:names:tc:xacml:3.0:ipc:subject:organization-type</u>	<u>M</u>
<u>urn:oasis:names:tc:xacml:3.0:ipc:subject:affiliation-type</u>	<u>M</u>

<u>urn:oasis:names:tc:xacml:3.0:ipc:subject:agreement-id</u>	<u>M</u>
<u>urn:oasis:names:tc:xacml:3.0:ipc:obligation:encrypt</u>	<u>M</u>
<u>urn:oasis:names:tc:xacml:3.0:ipc:obligation:marking</u>	<u>M</u>

1243 **4.25.2 Attribute Values**

1244 Conformant XACML *policies* and *requests* SHALL use attribute values in the specified range or patterns
 1245 as defined for each attribute in Section 2 (when a range or pattern is specified).

1246 NOTE: In order to process conformant XACML *policies* and *requests* correctly, *PIP* and
 1247 *PEP* modules may have to translate native data values into the datatypes and formats
 1248 specified in this profile.

1249 **Appendix A. Acknowledgements**

1250 The following individuals have participated in the creation of this specification and are gratefully
 1251 acknowledged:

1252 **Participants:**

- 1253 John Tolbert, The Boeing Company
- 1254 [Crystal Hayes, The Boeing Company](#)
- 1255 [Richard Hill, The Boeing Company](#)
- 1256 [Paul Tyson, Bell Helicopter Textron](#)
- 1257 [Danny Thorpe, Quest Software](#)
- 1258 [Remon Sinnema, EMC](#)
- 1259 [Andy Han, Nextlabs Inc](#)
- 1260 [Erik Rissanen, Axiomatics AB](#)
- 1261 [David Brossard, Axiomatics AB](#)

1262 **Committee members during profile development:**

Person Person	Organization	Role		
James Ducharme	Aveksa, Inc.	Member		
David Brossard	Axiomatics	Voting Member		
Gerry Gebel	Axiomatics	Member		
Erik Rissanen	Axiomatics	Voting Member		
Abbie Barbir	Bank of America	Member		
Rakesh Radhakrishnan	Bank of America	Member		
Paul Tyson	Bell Helicopter Textron Inc.	Voting Member		
Doron Grinstein	Quest Software	Member	Organization	Role
Ronald Jacobson	CA Technologies	Member		
Masum Hasan	Cisco Systems	Member		
Anil Tappetla	Cisco Systems	Member		
Gareth Richards	EMC	Member		
Remon Sinnema	EMC	Voting Member		
Craig Forster	IBM	Member		
Richard Franck	IBM	Member		
Michiharu	IBM	Member		

<u>Kudo</u>		
<u>Sridhar Muppidi</u>	<u>IBM</u>	<u>Member</u>
<u>Nataraj Nagaratnam</u>	<u>IBM</u>	<u>Member</u>
<u>Gregory Neven</u>	<u>IBM</u>	<u>Voting Member</u>
<u>Franz-Stefan Preiss</u>	<u>IBM</u>	<u>Member</u>
<u>Ron Williams</u>	<u>IBM</u>	<u>Member</u>
<u>Stefan Bohm</u>	<u>iC Consult GmbH</u>	<u>Member</u>
<u>David Chadwick</u>	<u>Individual</u>	<u>Member</u>
<u>David Choy</u>	<u>Individual</u>	<u>Voting Member</u>
<u>Jan Herrmann</u>	<u>Individual</u>	<u>Voting Member</u>
<u>Bill Parducci*</u>	<u>Individual</u>	<u>Chair</u>
<u>Bob Morgan</u>	<u>Internet2</u>	<u>Member</u>
<u>Duane Decouteau</u>	<u>Jericho Systems</u>	<u>Member</u>
<u>Philip Lieberman</u>	<u>Lieberman Software</u>	<u>Member</u>
<u>Thomas Hardjono</u>	<u>M.I.T.</u>	<u>Member</u>
<u>Roy D'Souza</u>	<u>Microsoft</u>	<u>Member</u>
<u>Anthony Nadalin</u>	<u>Microsoft</u>	<u>Voting Member</u>
<u>Andy Han</u>	<u>NextLabs, Inc.</u>	<u>Member</u>
<u>Naomaru Itoi</u>	<u>NextLabs, Inc.</u>	<u>Member</u>
<u>Kamalendu Biswas</u>	<u>Oracle</u>	<u>Member</u>
<u>Willem de Pater</u>	<u>Oracle</u>	<u>Member</u>
<u>Subbu Devulapalli</u>	<u>Oracle</u>	<u>Member</u>
<u>Rich Levinson</u>	<u>Oracle</u>	<u>Secretary</u>
<u>Hal Lockhart</u>	<u>Oracle</u>	<u>Chair</u>
<u>Prateek Mishra</u>	<u>Oracle</u>	<u>Member</u>
<u>Kenneth Peeples</u>	<u>Red Hat</u>	<u>Member</u>
<u>Anil Saldhana</u>	<u>Red Hat</u>	<u>Member</u>

Darran Rolls	SailPoint Technologies	Member	
Crystal Hayes	The Boeing Company*	Voting Member	
Richard Hill	The Boeing Company*	Voting Member	
John Tolbert	The Boeing Company*	Voting Member	
Martin Smith	US Department of Homeland Security*	Member	
John Davis	Veterans Health Administration	Member	
Duane DeCouteau	Veterans Health Administration	Member	
David Staggs	Veterans Health Administration	Member	
Erik Rissanen	Axiomatics-AB	Voting Member	
Ludwig Seitz	Axiomatics-AB	Member	
Paul Tyson	Bell Helicopter Textron Inc.	Member	
Ronald Jacobson	CA*	Member	
Masum Hasan	Cisco Systems, Inc.*	Member	
Anil Tappetta	Cisco Systems, Inc.*	Member	
Tim Moses	Entrust*	Member	
Guy Denton	IBM	Member	
Craig Forster	IBM	Member	
Richard Franck	IBM	Member	
Michiharu Kudo	IBM	Member	
Michael McIntosh	IBM	Member	
Vernon Murdoch	IBM	Member	
Ron Williams	IBM	Member	
David Chadwick	Individual	Member	
Bill Parducci*	Individual	Chair	
Abbie Barbir	Nortel	Member	
Harry Haury	NuParadigm Government Systems, Inc.	Member	
Kamalendu Biswas	Oracle Corporation	Member	
Willem de Pater	Oracle Corporation	Member	
Rich Levinson	Oracle Corporation	Secretary	
Hal Lockhart	Oracle Corporation	Chair	
Prateek Mishra	Oracle Corporation	Member	

Anil Saldhana	Red Hat	Voting Member
Darran Rolls	SailPoint Technologies	Member
Daniel Engovатов	Stream Dynamics, Inc.	Member
Dilli Arumugam	Sun Microsystems	Voting Member
Seth Proctor	Sun Microsystems	Voting Member
Aravindan Ranganathan	Sun Microsystems	Member
John Tolbert	The Boeing Company*	Voting Member
Martin Smith	US Department of Homeland Security*	Member
Duane DeCouteau	Veterans Health Administration	Voting Member
David Staggs	Veterans Health Administration	Voting Member

1263

Appendix B. Non-Normative Text

1264

This table maps possible overlaps between IP type classifications. This list is neither normative nor exhaustive, but serves as a guide for interoperable implementations.

1265

	<u>Copyright</u>	<u>Patent</u>	<u>Proprietary</u>	<u>Public- Domain</u>	<u>Trademark</u>
<u>Copyright</u>	-	<u>Yes</u>	<u>No</u>	<u>No</u>	<u>Yes</u>
<u>Patent</u>	<u>Yes</u>	-	<u>No</u>	<u>No</u>	<u>Yes</u>
<u>Proprietary</u>	<u>No</u>	<u>No</u>	-	<u>No</u>	<u>No</u>
<u>Public- Domain</u>	<u>No</u>	<u>No</u>	<u>No</u>	-	<u>No</u>
<u>Trademark</u>	<u>Yes</u>	<u>Yes</u>	<u>No</u>	<u>No</u>	-

1266

Appendix B. Appendix C. Revision History

Revision	Date	Editor	Changes Made
CD 1	6/18/2009	John Tolbert	Initial committee draft.
WD 2	2/25/2010	John Tolbert	Revised committee draft.
CD 2	5/5/10	John Tolbert	Revised committee draft, fixed links and formatting.
WD 3	8/9/2011	John Tolbert/Crystal Hayes	Added resource attributes for "Effective Date", "Expiration Date", and "Use Restrictions"; changed text for "License"; updated membership list.
WD4	9/7/2011	Paul Tyson, with response by John Tolbert and Crystal Hayes	Removed PII and Nationality from glossary. Removed Nationality as a subject attribute. Changed "License" to "Agreement". Added resource and subject attributes for "IP Agreement". Removed "Use Restrictions" and "Authority" from resource attributes. Moved "Encryption Type", "Marking", and "Disposal" to Obligations. Posed additional questions and comments for consideration.
WD5	10/13/2011	John Tolbert/Richard Hill	Removed all action attributes. Added "Affiliation Type" as a subject attribute. Removed "Disposal" as an obligation. Changed "Organization" to "Organizational-Affiliation". Added sample policies.
WD6	11/16/2011	John Tolbert, Richard Hill, Crystal Hayes, and Paul Tyson	Removed IP-Type and IP-Data, replaced with individual URNs. Added text to introduction and glossary. Incorporated Paul Tyson's changes from edited WD-05.
WD7	1/29/2012	John Tolbert, Richard Hill, Crystal Hayes, Paul Tyson, David Brossard, Danny Thorpe, Remon Sinnema	Added URNs for "Affiliation-Type" and "Agreement-Type". Added new subject attribute values with URNs for "Organizational-relationship" and "Organization-Type". Changed DataType of "Effective-Date" and "Expiration-Date" from date to dateTime. Changed some attribute descriptions. Fixed typographical errors. Changed (Updated) examples.
WD8	4/30/2012	John Tolbert, Richard Hill, Andy Han, Erik Rissanen	Changed attribute name "Organizational-Affiliation" to "Organization". Added additional guidance to descriptions to section 2.1 "Resource Attributes", section 2.1.9 "Agreement-Id", section 2.2.4 "Affiliation-Type". Removed "profiles" from obligation urn

			<u>examples. Updated examples; moved some rule target matches to the rule's condition section.</u>
--	--	--	--

1269