

Object Identifier Registry for the PKIX Working Group

Abstract

When the Public-Key Infrastructure using X.509 (PKIX) Working Group was chartered, an object identifier arc was allocated by IANA for use by that working group. This document describes the object identifiers that were assigned in that arc, returns control of that arc to IANA, and establishes IANA allocation policies for any future assignments within that arc.

Status of This Memo

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1. Introduction

When the Public-Key Infrastructure using X.509 (PKIX) Working Group was chartered, an object identifier arc was allocated by IANA for use by that working group. These object identifiers are primarily used with Abstract Syntax Notation One (ASN.1) [ASN1-88] [ASN1-97] [ASN1-08]. The ASN.1 specifications continue to evolve, but object identifiers can be used with any and all versions of ASN.1.

The PKIX object identifier arc is:

```
id-pkix OBJECT IDENTIFIER ::= { iso(1) identified-organization(3)
                                dod(6) internet(1) security(5) mechanisms(5) pkix(7) }
```

This document describes the object identifiers that were assigned in the PKIX arc, returns control of the PKIX arc to IANA, and establishes IANA allocation policies for any future assignments within the PKIX arc.

2. Subordinate Object Identifier Arcs

Twenty-five subordinate object identifier arcs were used, numbered from 0 to 23 and 48. In addition, there are seven subordinate arcs. They were assigned as follows:

```
-- Module identifiers
id-mod  OBJECT IDENTIFIER ::= { id-pkix 0 }

-- PKIX certificate extensions
id-pe   OBJECT IDENTIFIER ::= { id-pkix 1 }

-- Policy qualifier types
id-qt   OBJECT IDENTIFIER ::= { id-pkix 2 }
```

```
-- Extended key purpose identifiers
id-kp   OBJECT IDENTIFIER ::= { id-pkix 3 }

-- CMP information types
id-it   OBJECT IDENTIFIER ::= { id-pkix 4 }

-- CRMF registration
id-pkip OBJECT IDENTIFIER ::= { id-pkix 5 }

-- CRMF registration controls
id-regCtrl OBJECT IDENTIFIER ::= { id-pkix 5 1 }

-- CRMF registration information
id-regInfo OBJECT IDENTIFIER ::= { id-pkix 5 2 }

-- Algorithms
id-alg  OBJECT IDENTIFIER ::= { id-pkix 6 }

-- CMC controls
id-cmc  OBJECT IDENTIFIER ::= { id-pkix 7 }

-- CMC GLA Requests and Responses
id-cmc-glaRR OBJECT IDENTIFIER ::= { id-pkix 7 99 }

-- Other name forms
id-on   OBJECT IDENTIFIER ::= { id-pkix 8 }

-- Personal data attribute
id-pda  OBJECT IDENTIFIER ::= { id-pkix 9 }

-- Attribute certificate attributes
id-aca  OBJECT IDENTIFIER ::= { id-pkix 10 }

-- Qualified certificate statements
id-qcs  OBJECT IDENTIFIER ::= { id-pkix 11 }

-- CMC content types
id-cct  OBJECT IDENTIFIER ::= { id-pkix 12 }

-- OIDs for TESTING ONLY
id-TEST OBJECT IDENTIFIER ::= { id-pkix 13 }

-- Certificate policies
id-cp   OBJECT IDENTIFIER ::= { id-pkix 14 }

-- CMC error types
id-cet  OBJECT IDENTIFIER ::= { id-pkix 15 }
```

```
-- Revocation information types
id-ri    OBJECT IDENTIFIER ::= { id-pkix 16 }

-- SCVP check type
id-sct    OBJECT IDENTIFIER ::= { id-pkix 17 }

-- SCVP want back types
id-swb    OBJECT IDENTIFIER ::= { id-pkix 18 }

-- SCVP validation policies
id-svp    OBJECT IDENTIFIER ::= { id-pkix 19 }

-- SCVP name validation policy errors
id-nvae   OBJECT IDENTIFIER ::= { id-pkix 19 2 }

-- SCVP basic validation policy errors
id-bvae   OBJECT IDENTIFIER ::= { id-pkix 19 3 }

-- SCVP distinguished name validation policy errors
id-dnvae  OBJECT IDENTIFIER ::= { id-pkix 19 4 }

-- Other logotype identifiers
id-logo   OBJECT IDENTIFIER ::= { id-pkix 20 }

-- Proxy certificate policy languages
id-ppl    OBJECT IDENTIFIER ::= { id-pkix 21 }

-- Matching rules
id-mr     OBJECT IDENTIFIER ::= { id-pkix 22 }

-- Subject key identifier semantics
id-skis   OBJECT IDENTIFIER ::= { id-pkix 23 }

-- Access descriptors
id-ad     OBJECT IDENTIFIER ::= { id-pkix 48 }

-- Online Certificate Status Protocol
id-pkix-ocsp OBJECT IDENTIFIER ::= { id-pkix 48 1 }
```

The values assigned in each of these subordinate object identifier arcs are discussed in the next section.

3. IANA Considerations

IANA has updated one registry table and created 33 additional tables.

Updates to the new tables are to be made according to the Specification Required policy as defined in [RFC5226]. The expert is expected to ensure that any new values are strongly related to the work that was done by the PKIX Working Group. That is, additional object identifiers are to be related to X.509 certificates, X.509 attribute certificates, X.509 certificate revocation lists (CRLs), or protocols associated with them. Object identifiers for other purposes should not be assigned in this arc.

3.1. Update to "SMI Security for Mechanism Codes" Registry

The reference for the Public Key Infrastructure using X.509 (PKIX) entry (decimal value 7) has been updated to point to this document.

3.2. "SMI Security for PKIX" Registry

Within the SMI-numbers registry, a "PKIX (1.3.6.1.5.5.7)" table with three columns has been added:

Decimal	Description	References
0	Module identifiers	[RFC7299]
1	PKIX certificate extensions	[RFC7299]
2	Policy qualifier types	[RFC7299]
3	Extended key purpose identifiers	[RFC7299]
4	CMP information types	[RFC7299]
5	CRMF registration	[RFC7299]
6	Algorithms	[RFC7299]
7	CMC controls	[RFC7299]
8	Other name forms	[RFC7299]
9	Personal data attribute	[RFC7299]
10	Attribute certificate attributes	[RFC7299]
11	Qualified certificate statements	[RFC7299]
12	CMC content types	[RFC7299]
13	OIDs for TESTING ONLY	[RFC7299]
14	Certificate policies	[RFC7299]
15	CMC error types	[RFC7299]
16	Revocation information types	[RFC7299]
17	SCVP check type	[RFC7299]
18	SCVP want back types	[RFC7299]
19	SCVP validation policies	[RFC7299]
20	Other logotype identifiers	[RFC7299]

21	Proxy certificate policy languages	[RFC7299]
22	Matching rules	[RFC7299]
23	Subject key identifier semantics	[RFC7299]
48	Access descriptors	[RFC7299]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.3. "SMI Security for PKIX Module Identifier" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Module Identifier (1.3.6.1.5.5.7.0)" table with three columns has been added:

Decimal	Description	References
1	id-pkix1-explicit-88	[RFC2459]
2	id-pkix1-implicit-88	[RFC2459]
3	id-pkix1-explicit-93	[RFC2459]
4	id-pkix1-implicit-93	[RFC2459]
5	id-mod-crmf	[RFC2511]
6	id-mod-cmc	[RFC2797]
7	id-mod-kea-profile-88	[RFC2528]
8	id-mod-kea-profile-93	[RFC2528]
9	id-mod-cmp	[RFC2510]
10	id-mod-qualified-cert-88	[RFC3039]
11	id-mod-qualified-cert-93	[RFC3039]
12	id-mod-attribute-cert	[RFC3281]
13	id-mod-tsp	[RFC3161]
14	id-mod-ocsp	[RFC3029]
15	id-mod-dvcs	[RFC3029]
16	id-mod-cmp2000	[RFC4210]
17	id-mod-pkix1-algorithms	[RFC3279]
18	id-mod-pkix1-explicit	[RFC3280]
19	id-mod-pkix1-implicit	[RFC3280]
20	id-mod-user-group	Reserved and Obsolete
21	id-mod-scvp	[RFC5055]
22	id-mod-logotype	[RFC3709]
23	id-mod-cmc2002	[RFC5272]
24	id-mod-wlan-extns	[RFC3770]
25	id-mod-proxy-cert-extns	[RFC3820]
26	id-mod-ac-policies	[RFC4476]
27	id-mod-warranty-extn	[RFC4059]
28	id-mod-perm-id-88	[RFC4043]
29	id-mod-perm-id-93	[RFC4043]
30	id-mod-ip-addr-and-as-ident	[RFC3779]
31	id-mod-qualified-cert	[RFC3739]
32	id-mod-crmf2003	Reserved and Obsolete

33	id-mod-pkix1-rsa-pkalg	[RFC4055]	
34	id-mod-cert-bundle	[RFC4306]	
35	id-mod-qualified-cert-97	[RFC3739]	
36	id-mod-crmf2005	[RFC4210]	
37	id-mod-wlan-extns2005	[RFC4334]	
38	id-mod-sim2005	[RFC4683]	
39	id-mod-dns-srv-name-88	[RFC4985]	
40	id-mod-dns-srv-name-93	[RFC4985]	
41	id-mod-cmsContentConstr-88	[RFC6010]	
42	id-mod-cmsContentConstr-93	[RFC6010]	
43	id-mod-pkixCommon	Reserved and Obsolete	
44	id-mod-pkixOtherCerts	[RFC5697]	
45	id-mod-pkix1-algorithms2008	[RFC5480]	
46	id-mod-clearanceConstraints	[RFC5913]	
47	id-mod-attribute-cert-02	[RFC5912]	
48	id-mod-ocsp-02	[RFC5912]	
49	id-mod-v1AttrCert-02	[RFC5912]	
50	id-mod-cmp2000-02	[RFC5912]	
51	id-mod-pkix1-explicit-02	[RFC5912]	
52	id-mod-scvp-02	[RFC5912]	
53	id-mod-cmc2002-02	[RFC5912]	
54	id-mod-pkix1-rsa-pkalg-02	[RFC5912]	
55	id-mod-crmf2005-02	[RFC5912]	
56	id-mod-pkix1-algorithms2008-02	[RFC5912]	
57	id-mod-pkixCommon-02	[RFC5912]	
58	id-mod-algorithmInformation-02	[RFC5912]	
59	id-mod-pkix1-implicit-02	[RFC5912]	
60	id-mod-pkix1-x400address-02	[RFC5912]	
61	id-mod-attribute-cert-v2	[RFC5755]	
62	id-mod-sip-domain-extns2007	[RFC5924]	
63	id-mod-cms-otherRIs-2009-88	[RFC5940]	
64	id-mod-cms-otherRIs-2009-93	[RFC5940]	
65	id-mod-ecprivatekey	[RFC5915]	
66	id-mod-ocsp-agility-2009-93	[RFC6277]	
67	id-mod-ocsp-agility-2009-88	[RFC6277]	
68	id-mod-logotype-certimage	[RFC6170]	
69	id-mod-pkcs10-2009	[RFC5912]	
70	id-mod-dns-resource-record	[Abley]	
71	id-mod-send-cert-extns	[RFC6494]	
72	id-mod-ip-addr-and-as-ident-2	[RFC6268]	
73	id-mod-wlan-extns-2	[RFC6268]	
74	id-mod-hmac	[RFC6268]	
75	id-mod-enrollMsgSyntax-2011-88	[RFC6402]	[Err3860]
76	id-mod-enrollMsgSyntax-2011-08	[RFC6402]	
77	id-mod-pubKeySMIMECaps-88	[RFC6664]	
78	id-mod-pubKeySMIMECaps-08	[RFC6664]	
79	id-mod-dhSign-2012-88	[RFC6955]	
80	id-mod-dhSign-2012-08	[RFC6955]	

81	id-mod-ocsp-2013-88	[RFC6960]
82	id-mod-ocsp-2013-08	[RFC6960]
83	id-mod-TEST-certPolicies	[RFC7229]
84	id-mod-bgpsec-eku	[BGPSEC]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.4. "SMI Security for PKIX Certificate Extension" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Certificate Extension (1.3.6.1.5.5.7.1)" table with three columns has been added:

Decimal	Description	References
1	id-pe-authorityInfoAccess	[RFC2459]
2	id-pe-biometricInfo	[RFC3039]
3	id-pe-qcStatements	[RFC3039]
4	id-pe-ac-auditIdentity	[RFC3281]
5	id-pe-ac-targeting	Reserved and Obsolete
6	id-pe-aaControls	[RFC3281]
7	id-pe-ipAddrBlocks	[RFC3779]
8	id-pe-autonomousSysIds	[RFC3779]
9	id-pe-sbgp-routerIdentifier	Reserved and Obsolete
10	id-pe-ac-proxying	[RFC3281]
11	id-pe-subjectInfoAccess	[RFC3280]
12	id-pe-logotype	[RFC3709]
13	id-pe-wlanSSID	[RFC4334]
14	id-pe-proxyCertInfo	[RFC3820]
15	id-pe-acPolicies	[RFC4476]
16	id-pe-warranty	[RFC4059]
17	id-pe-sim	Reserved and Obsolete
18	id-pe-cmsContentConstraints	[RFC6010]
19	id-pe-otherCerts	[RFC5697]
20	id-pe-wrappedApexContinKey	[RFC5934]
21	id-pe-clearanceConstraints	[RFC5913]
22	id-pe-skiSemantics	Reserved and Obsolete
23	id-pe-nsa	[RFC7169]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.5. "SMI Security for PKIX Policy Qualifier" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Policy Qualifier Identifiers (1.3.6.1.5.5.7.2)" table with three columns has been added:

Decimal	Description	References
1	id-qt-cps	[RFC2459]
2	id-qt-unotice	[RFC2459]
3	id-qt-textNotice	Reserved and Obsolete
4	id-qt-acps	[RFC4476]
5	id-qt-acunotice	[RFC4476]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.6. "SMI Security for PKIX Extended Key Purpose" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Extended Key Purpose Identifiers (1.3.6.1.5.5.7.3)" table with three columns has been added:

Decimal	Description	References
1	id-kp-serverAuth	[RFC2459]
2	id-kp-clientAuth	[RFC2459]
3	id-kp-codeSigning	[RFC2459]
4	id-kp-emailProtection	[RFC2459]
5	id-kp-ipsecEndSystem	Reserved and Obsolete
6	id-kp-ipsecTunnel	Reserved and Obsolete
7	id-kp-ipsecUser	Reserved and Obsolete
8	id-kp-timeStamping	[RFC2459]
9	id-kp-OCSPSigning	[RFC2560]
10	id-kp-dvcs	[RFC3029]
11	id-kp-sbgpCertAAServerAuth	Reserved and Obsolete
12	id-kp-scvp-responder	Reserved and Obsolete
13	id-kp-eapOverPPP	[RFC4334]
14	id-kp-eapOverLAN	[RFC4334]
15	id-kp-scvpServer	[RFC5055]
16	id-kp-scvpClient	[RFC5055]
17	id-kp-ipsecIKE	[RFC4945]
18	id-kp-capwapAC	[RFC5415]
19	id-kp-capwapWTP	[RFC5415]
20	id-kp-sipDomain	[RFC5924]
21	id-kp-secureShellClient	[RFC6187]
22	id-kp-secureShellServer	[RFC6187]
23	id-kp-sendRouter	[RFC6494]

24	id-kp-sendProxiedRouter	[RFC6494]
25	id-kp-sendOwner	[RFC6494]
26	id-kp-sendProxiedOwner	[RFC6494]
27	id-kp-cmcCA	[RFC6402]
28	id-kp-cmcRA	[RFC6402]
29	id-kp-cmcArchive	[RFC6402]
30	id-kp-bgpsec-router	[BGPSEC]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.7. "SMI Security for PKIX CMP Information Types" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX CMP Information Types (1.3.6.1.5.5.7.4)" table with three columns has been added:

Decimal	Description	References
1	id-it-caProtEncCert	[RFC2510]
2	id-it-signKeyPairTypes	[RFC2510]
3	id-it-encKeyPairTypes	[RFC2510]
4	id-it-preferredSymmAlg	[RFC2510]
5	id-it-caKeyUpdateInfo	[RFC2510]
6	id-it-currentCRL	[RFC2510]
7	id-it-unsupportedOIDs	[RFC4210]
8	id-it-subscriptionRequest	Reserved and Obsolete
9	id-it-subscriptionResponse	Reserved and Obsolete
10	id-it-keyPairParamReq	[RFC4210]
11	id-it-keyPairParamRep	[RFC4210]
12	id-it-revPassphrase	[RFC4210]
13	id-it-implicitConfirm	[RFC4210]
14	id-it-confirmWaitTime	[RFC4210]
15	id-it-origPKIMessage	[RFC4210]
16	id-it-supplLangTags	[RFC4210]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.8. "SMI Security for PKIX CRMF Registration" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX CRMF Registration (1.3.6.1.5.5.7.5)" table with three columns has been added:

Decimal	Description	References
-----	-----	-----
1	id-regCtrl	[RFC2511]
2	id-regInfo	[RFC2511]
3	id-regEPEPSI	[RFC4683]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.9. "SMI Security for PKIX CRMF Registration Controls" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX CRMF Registration Controls (1.3.6.1.5.5.7.5.1)" table with three columns has been added:

Decimal	Description	References
-----	-----	-----
1	id-regCtrl-regToken	[RFC2511]
2	id-regCtrl-authenticator	[RFC2511]
3	id-regCtrl-pkiPublicationInfo	[RFC2511]
4	id-regCtrl-pkiArchiveOptions	[RFC2511]
5	id-regCtrl-oldCertID	[RFC2511]
6	id-regCtrl-protocolEncrKey	[RFC2511]
7	id-regCtrl-altCertTemplate	[RFC4210]
8	id-regCtrl-wtlsTemplate	Reserved and Obsolete
9	id-regCtrl-regTokenUTF8	Reserved and Obsolete
10	id-regCtrl-authenticatorUTF8	Reserved and Obsolete

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.10. "SMI Security for PKIX CRMF Registration Information" Registry

Within the SMI-numbers registry, add an "SMI Security for PKIX CRMF Registration Information (1.3.6.1.5.5.7.5.2)" table with three columns:

Decimal	Description	References
-----	-----	-----
1	id-regInfo-utf8Pairs	[RFC2511]
2	id-regInfo-certReq	[RFC2511]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.11. "SMI Security for PKIX Algorithms" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Algorithms (1.3.6.1.5.5.7.6)" table with three columns has been added:

Decimal	Description	References
-----	-----	-----
1	id-alg-des40	Reserved and Obsolete
2	id-alg-noSignature	[RFC2797]
3	id-alg-dh-sig-hmac-sha1	[RFC2875]
4	id-alg-dhPop-sha1	[RFC2875]
5	id-alg-dhPop-sha224	[RFC6955]
6	id-alg-dhPop-sha256	[RFC6955]
7	id-alg-dhPop-sha384	[RFC6955]
8	id-alg-dhPop-sha512	[RFC6955]
15	id-alg-dhPop-static-sha224-hmac-sha224	[RFC6955]
16	id-alg-dhPop-static-sha256-hmac-sha256	[RFC6955]
17	id-alg-dhPop-static-sha384-hmac-sha384	[RFC6955]
18	id-alg-dhPop-static-sha512-hmac-sha512	[RFC6955]
25	id-alg-ecdhPop-static-sha224-hmac-sha224	[RFC6955]
26	id-alg-ecdhPop-static-sha256-hmac-sha256	[RFC6955]
27	id-alg-ecdhPop-static-sha384-hmac-sha384	[RFC6955]
28	id-alg-ecdhPop-static-sha512-hmac-sha512	[RFC6955]

Note: id-alg-dhPop-sha1 is also known as id-alg-dh-pop.

Note: id-alg-dh-sig-hmac-sha1 is also known as
id-alg-dhPop-static-sha1-hmac-sha1 and
id-dhPop-static-hmac-sha1.

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.12. "SMI Security for PKIX CMC Controls" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX CMC Controls (1.3.6.1.5.5.7.7)" table with three columns has been added:

Decimal	Description	References
-----	-----	-----
1	id-cmc-statusInfo	[RFC2797]
2	id-cmc-identification	[RFC2797]
3	id-cmc-identityProof	[RFC2797]
4	id-cmc-dataReturn	[RFC2797]
5	id-cmc-transactionId	[RFC2797]

6	id-cmc-senderNonce	[RFC2797]
7	id-cmc-recipientNonce	[RFC2797]
8	id-cmc-addExtensions	[RFC2797]
9	id-cmc-encryptedPOP	[RFC2797]
10	id-cmc-decryptedPOP	[RFC2797]
11	id-cmc-lraPOPWitness	[RFC2797]
15	id-cmc-getCert	[RFC2797]
16	id-cmc-getCRL	[RFC2797]
17	id-cmc-revokeRequest	[RFC2797]
18	id-cmc-regInfo	[RFC2797]
19	id-cmc-responseInfo	[RFC2797]
21	id-cmc-queryPending	[RFC2797]
22	id-cmc-popLinkRandom	[RFC2797]
23	id-cmc-popLinkWitness	[RFC2797]
24	id-cmc-confirmCertAcceptance	[RFC2797]
25	id-cmc-statusInfoV2	[RFC5272]
26	id-cmc-trustedAnchors	[RFC5272]
27	id-cmc-authData	[RFC5272]
28	id-cmc-batchRequests	[RFC5272]
29	id-cmc-batchResponses	[RFC5272]
30	id-cmc-publishCert	[RFC5272]
31	id-cmc-modCertTemplate	[RFC5272]
32	id-cmc-controlProcessed	[RFC5272]
33	id-cmc-popLinkWitnessV2	[RFC5272]
34	id-cmc-identityProofV2	[RFC5272]
35	id-cmc-raIdentityWitness	[RFC6402]
36	id-cmc-changeSubjectName	[RFC6402]
37	id-cmc-responseBody	[RFC6402]
99	id-cmc-glaRR	[RFC5275]

Note: id-cmc-statusInfo is also known as id-cmc-cMCStatusInfo.

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.13. "SMI Security for PKIX CMC GLA Requests and Responses" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX CMC GLA Requests and Responses (1.3.6.1.5.5.7.7.99)" table with three columns has been added:

Decimal	Description	References
-----	-----	-----
1	id-cmc-gla-skdAlgRequest	[RFC5275]
2	id-cmc-gla-skdAlgResponse	[RFC5275]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.14. "SMI Security for PKIX Other Name Forms" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Other Name Forms (1.3.6.1.5.5.7.8)" table with three columns has been added:

Decimal	Description	References
1	id-on-personalData	Reserved and Obsolete
2	id-on-userGroup	Reserved and Obsolete
3	id-on-permanentIdentifier	[RFC4043]
4	id-on-hardwareModuleName	[RFC4108]
5	id-on-xmppAddr	[RFC3920]
6	id-on-SIM	[RFC4683]
7	id-on-dnsSRV	[RFC4985]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.15. "SMI Security for PKIX Personal Data Attributes" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Personal Data Attributes (1.3.6.1.5.5.7.9)" table with three columns has been added:

Decimal	Description	References
1	id-pda-dateOfBirth	[RFC3039]
2	id-pda-placeOfBirth	[RFC3039]
3	id-pda-gender	[RFC3039]
4	id-pda-countryOfCitizenship	[RFC3039]
5	id-pda-countryOfResidence	[RFC3039]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.16. "SMI Security for PKIX Attribute Certificate Attributes" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Attribute Certificate Attributes (1.3.6.1.5.5.7.10)" table with three columns has been added:

Decimal	Description	References
1	id-aca-authenticationInfo	[RFC3281]
2	id-aca-accessIdentity	[RFC3281]
3	id-aca-chargingIdentity	[RFC3281]
4	id-aca-group	[RFC3281]
5	id-aca-role	Reserved and Obsolete
6	id-aca-encAttrs	[RFC3281]
7	id-aca-wlanSSID	[RFC4334]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.17. "SMI Security for PKIX Qualified Certificate Statements" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Qualified Certificate Statements (1.3.6.1.5.5.7.11)" table with three columns has been added:

Decimal	Description	References
1	id-qcs-pkixQCSyntax-v1	[RFC3039]
2	id-qcs-pkixQCSyntax-v2	[RFC3739]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.18. "SMI Security for PKIX CMC Content Types" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX CMC Content Types (1.3.6.1.5.5.7.12)" table with three columns has been added:

Decimal	Description	References
1	id-cct-crs	Reserved and Obsolete
2	id-cct-PKIData	[RFC2797]
3	id-cct-PKIResponse	[RFC2797]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.19. "SMI Security for PKIX OIDs Used Only for Testing" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX OIDs used Only for Testing (1.3.6.1.5.5.7.13)" table with three columns has been added:

Decimal	Description	References
1	id-TEST-certPolicyOne	[RFC7229]
2	id-TEST-certPolicyTwo	[RFC7229]
3	id-TEST-certPolicyThree	[RFC7229]
4	id-TEST-certPolicyFour	[RFC7229]
5	id-TEST-certPolicyFive	[RFC7229]
6	id-TEST-certPolicySix	[RFC7229]
7	id-TEST-certPolicySeven	[RFC7229]
8	id-TEST-certPolicyEight	[RFC7229]

Note: The object identifiers in this table should not appear on the public Internet. These object identifiers are ONLY for TESTING.

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.20. "SMI Security for PKIX Certificate Policies" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Certificate Policies (1.3.6.1.5.5.7.14)" table with three columns has been added:

Decimal	Description	References
1	id-cp-sbgpCertificatePolicy	Reserved and Obsolete
2	id-cp-ipAddr-asNumber	[RFC6484]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.21. "SMI Security for PKIX CMC Error Types" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX CMC Error Types (1.3.6.1.5.5.7.15)" table with three columns has been added:

Decimal	Description	References
1	id-cet-skdFailInfo	[RFC5275]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.22. "SMI Security for PKIX Revocation Information Types" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Revocation Information Types (1.3.6.1.5.5.7.16)" table with three columns has been added:

Decimal	Description	References
1	id-ri-crl	[RFC5940]
2	id-ri-ocsp-response	[RFC5940]
3	id-ri-delta-crl	[RFC5940]
4	id-ri-scvp	[RFC5940]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.23. "SMI Security for PKIX SCVP Check Types" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX SCVP Check Types (1.3.6.1.5.5.7.17)" table with three columns has been added:

Decimal	Description	References
1	id-stc-build-pkc-path	[RFC5055]
2	id-stc-build-valid-pkc-path	[RFC5055]
3	id-stc-build-status-checked-pkc-path	[RFC5055]
4	id-stc-build-aa-path	[RFC5055]
5	id-stc-build-valid-aa-path	[RFC5055]
6	id-stc-build-status-checked-aa-path	[RFC5055]
7	id-stc-status-check-ac-and-build-status-checked-aa-path	[RFC5055]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.24. "SMI Security for PKIX SCVP Want Back Types" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX SCVP Want Back Types (1.3.6.1.5.5.7.18)" table with three columns has been added:

Decimal	Description	References
1	id-swb-pkc-best-cert-path	[RFC5055]
2	id-swb-pkc-revocation-info	[RFC5055]
3	id-swb-pkc-cert-status	Reserved and Obsolete
4	id-swb-pkc-public-key-info	[RFC5055]
5	id-swb-aa-cert-path	[RFC5055]
6	id-swb-aa-revocation-info	[RFC5055]
7	id-swb-ac-revocation-info	[RFC5055]
8	id-swb-ac-cert-status	Reserved and Obsolete
9	id-swb-relayed-responses	[RFC5055]
10	id-swb-pkc-cert	[RFC5055]
11	id-swb-ac-cert	[RFC5055]
12	id-swb-pkc-all-cert-paths	[RFC5055]
13	id-swb-pkc-ee-revocation-info	[RFC5055]
14	id-swb-pkc-CAs-revocation-info	[RFC5055]
15	id-swb-partial-cert-path	[RFC5276]
16	id-swb-ers-pkc-cert	[RFC5276]
17	id-swb-ers-best-cert-path	[RFC5276]
18	id-swb-ers-partial-cert-path	[RFC5276]
19	id-swb-ers-revocation-info	[RFC5276]
20	id-swb-ers-all	[RFC5276]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.25. "SMI Security for PKIX SCVP Validation Policies and Algorithms" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX SCVP Validation Policies and Algorithms (1.3.6.1.5.5.7.19)" table with three columns has been added:

Decimal	Description	References
1	id-svp-defaultValPolicy	[RFC5055]
2	id-svp-nameValAlg	[RFC5055]
3	id-svp-basicValAlg	[RFC5055]
4	id-svp-dnValAlg	[RFC5055]

Note: id-svp-nameValAlg is also known as id-nvae.

Note: id-svp-basicValAlg is also known as id-bvae.

Note: id-svp-dnValAlg is also known as id-dnvae and id-nva-dnCompAlg.

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.26. "SMI Security for PKIX SCVP Name Validation Policy Errors" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX SCVP Name Validation Policy Errors (1.3.6.1.5.5.7.19.2)" table with three columns has been added:

Decimal	Description	References
1	id-nvae-name-mismatch	[RFC5055]
2	id-nvae-no-name	[RFC5055]
3	id-nvae-unknown-alg	[RFC5055]
4	id-nvae-bad-name	[RFC5055]
5	id-nvae-bad-name-type	[RFC5055]
6	id-nvae-mixed-names	[RFC5055]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.27. "SMI Security for PKIX SCVP Basic Validation Policy Errors" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX SCVP Basic Validation Policy Errors (1.3.6.1.5.5.7.19.3)" table with three columns has been added:

Decimal	Description	References
1	id-bvae-expired	[RFC5055]
2	id-bvae-not-yet-valid	[RFC5055]
3	id-bvae-wrongTrustAnchor	[RFC5055]
4	id-bvae-noValidCertPath	[RFC5055]
5	id-bvae-revoked	[RFC5055]
9	id-bvae-invalidKeyPurpose	[RFC5055]
10	id-bvae-invalidKeyUsage	[RFC5055]
11	id-bvae-invalidCertPolicy	[RFC5055]
12	id-bvae-invalidName	Reserved and Obsolete
13	id-bvae-invalidEntity	Reserved and Obsolete
14	id-bvae-invalidPathDepth	Reserved and Obsolete

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.28. "SMI Security for PKIX SCVP Distinguished Name Validation Policy Errors" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX SCVP Distinguished Name Validation Policy Errors (1.3.6.1.5.5.7.19.4)" table with three columns has been added:

Decimal	Description	References
-----	-----	-----

Note: This table is currently empty.

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.29. "SMI Security for PKIX Other Logotype Identifiers" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Other Logotype Identifiers (1.3.6.1.5.5.7.20)" table with three columns has been added:

Decimal	Description	References
-----	-----	-----
1	id-logo-loyalty	[RFC3709]
2	id-logo-background	[RFC3709]
3	id-logo-certImage	[RFC6170]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.30. "SMI Security for PKIX Proxy Certificate Policy Languages" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Proxy Certificate Policy Languages (1.3.6.1.5.5.7.21)" table with three columns has been added:

Decimal	Description	References
-----	-----	-----
0	id-ppl-anyLanguage	[RFC3820]
1	id-ppl-inheritAll	[RFC3820]
2	id-ppl-independent	[RFC3820]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.31. "SMI Security for PKIX Proxy Matching Rules" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Proxy Matching Rules (1.3.6.1.5.5.7.22)" table with three columns has been added:

Decimal	Description	References
-----	-----	-----
1	id-mr-pkix-alphanum-ids	Reserved and Obsolete

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.32. "SMI Security for PKIX Subject Key Identifier Semantics" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Subject Key Identifier Semantics (1.3.6.1.5.5.7.23)" table with three columns has been added:

Decimal	Description	References
-----	-----	-----
1	id-skis-keyHash	Reserved and Obsolete
2	id-skis-4BitKeyHash	Reserved and Obsolete
3	id-skis-keyInfoHash	Reserved and Obsolete

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.33. "SMI Security for PKIX Access Descriptor" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Access Descriptor (1.3.6.1.5.5.7.48)" table with three columns has been added:

Decimal	Description	References
-----	-----	-----
1	id-ad-ocsp	[RFC2459]
2	id-ad-caIssuers	[RFC2459]
3	id-ad-timestamping	[RFC3161]
4	id-ad-dvcs	[RFC3029]
5	id-ad-caRepository	[RFC3280]
6	id-ad-http-certs	[RFC4387]
7	id-ad-http-crls	[RFC4387]
8	id-ad-xkms	Reserved and Obsolete
9	id-ad-signedObjectRepository	Reserved and Obsolete
10	id-ad-rpkiManifest	[RFC6487]
11	id-ad-signedObject	[RFC6487]
12	id-ad-cmc	[RFC6402]

Note: id-ad-ocsp is also known as id-pkix-ocsp.

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

3.34. "SMI Security for PKIX Online Certificate Status Protocol (OCSP)" Registry

Within the SMI-numbers registry, an "SMI Security for PKIX Online Certificate Status Protocol (OCSP) (1.3.6.1.5.5.7.48.1)" table with three columns has been added:

Decimal	Description	References
1	id-pkix-ocsp-basic	[RFC2560]
2	id-pkix-ocsp-nonce	[RFC2560]
3	id-pkix-ocsp-crl	[RFC2560]
4	id-pkix-ocsp-response	[RFC2560]
5	id-pkix-ocsp-nocheck	[RFC2560]
6	id-pkix-ocsp-archive-cutoff	[RFC2560]
7	id-pkix-ocsp-service-locator	[RFC2560]
8	id-pkix-ocsp-pref-sig-algs	[RFC6277]
9	id-pkix-ocsp-extended-revoke	[RFC6960]

Future updates to this table are to be made according to the Specification Required policy as defined in [RFC5226].

4. Security Considerations

This document populates an IANA registry, and it raises no new security considerations. The protocols that specify these values include the security considerations associated with their usage.

The id-pe-nsa certificate extension should not appear in any certificate that is used on the public Internet.

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Author's Address

Russ Housley
918 Spring Knoll Drive
Herndon, VA 20170
USA

EMail: housley@vigilsec.com