DNS Security (DNSSEC) DNSKEY Algorithm IANA Registry Updates

Abstract

The DNS Security Extensions (DNSSEC) require the use of cryptographic algorithm suites for generating digital signatures over DNS data. The algorithms specified for use with DNSSEC are reflected in an IANA-maintained registry. This document presents a set of changes for some entries of the registry.

Status of This Memo

This is an Internet Standards Track document.

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Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at http://www.rfc-editor.org/info/rfc6725.

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1. Introduction

The Domain Name System (DNS) Security Extensions (DNSSEC, defined by
[RFC4033], [RFC4034], [RFC4035], [RFC4509], [RFC5155], and [RFC5702])
use digital signatures over DNS data to provide source authentication
and integrity protection. DNSSEC uses an IANA registry to list codes
for digital signature algorithms (consisting of an asymmetric
cryptographic algorithm and a one-way hash function).

This document updates a set of entries in the IANA registry titled
"DNS Security (DNSSEC) Algorithm Numbers". These updated entries are
given in Section 2.2 below. This list includes changes to selected
entries originally set aside for future algorithm specification that
did not occur. These three entries are changed to "Reserved" to
avoid potential conflicts with older implementations. This document
also brings the list of references for entries up to date.

There are auxiliary sub-registries related to the DNS Security
(DNSSEC) Algorithm Numbers registry that deal with various Diffie-
Hellman parameters used with DNSSEC. These registry tables are not
altered by this document.

2. The DNS Security Algorithm Numbers Sub-Registry

The DNS Security Algorithm Numbers sub-registry (part of the Domain
Name System Security (DNSSEC) Algorithm Numbers registry) contains a
set of entries that contain errors. There are additional differences
to entries that are described in Section 2.1, and the complete list
of changed registry entries is in Section 2.2.

2.1. Updates and Additions

This document updates three entries in the Domain Name System
Security (DNSSEC) Algorithm Numbers registry:

The description for assignment number 4 is changed to "Reserved".

The description for assignment number 9 is changed to "Reserved".
The description for assignment number 11 is changed to "Reserved".

The above entries are changed to "Reserved" because they were placeholders for algorithms that were not fully specified for use with DNSSEC. Older implementations may still have these algorithm codes assigned, so these codes are reserved to prevent potential incompatibilities.

### 2.2. DNS Security Algorithm Numbers Sub-Registry Table

The list of DNS Security Algorithm Numbers sub-registry entry changes is given below. All other existing entries in the sub-registry table are unchanged by this document and are not shown. The other two sub-registries in the Domain Name System Security (DNSSEC) Algorithm Numbers registry (DNS KEY Record Diffie-Hellman Prime Lengths and DNS KEY Record Diffie-Hellman Well-Known Prime/Generator Pairs) are not changed in any way by this document.

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Mnemonic</th>
<th>Zone</th>
<th>Signing</th>
<th>Trans.</th>
<th>Sec.</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>[RFC4034], [RFC4398]</td>
</tr>
<tr>
<td>1</td>
<td>RSA/MD5</td>
<td>RSAMD5</td>
<td>N</td>
<td>Y</td>
<td></td>
<td></td>
<td>[RFC3110], [RFC4034]</td>
</tr>
<tr>
<td></td>
<td>(deprecated; see 5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Reserved</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[RFC6725]</td>
</tr>
<tr>
<td>5</td>
<td>RSA/SHA-1</td>
<td>RSASHA1</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td>[RFC3110], [RFC4034]</td>
</tr>
<tr>
<td>9</td>
<td>Reserved</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[RFC6725]</td>
</tr>
<tr>
<td>11</td>
<td>Reserved</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>[RFC6725]</td>
</tr>
<tr>
<td>15-122</td>
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</tr>
<tr>
<td>123-251</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>[RFC4034], [RFC6014]</td>
</tr>
<tr>
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<td>Y</td>
<td></td>
<td></td>
<td>[RFC4034]</td>
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<tr>
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<td>private algorithm OID</td>
<td>PRIVATEOID</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td>[RFC4034]</td>
</tr>
</tbody>
</table>
3. IANA Considerations

This document updates a set of DNS Security Algorithm Numbers sub-registry entries as given in Section 2.2. The changes include moving three registry entries to "Reserved" and updating the reference list for entries.

4. Security Considerations

This document updates the Domain Name System Security (DNSSEC) Algorithm Numbers registry. It is not meant to be a discussion on algorithm superiority. No new security considerations are raised in this document.

5. Informative References


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