
**Information technology — Security
techniques — Digital signature schemes
giving message recovery —**

**Part 2:
Integer factorization based mechanisms**

AMENDMENT 1

*Technologies de l'information — Techniques de sécurité — Schémas
de signature numérique rétablissant le message —*

Partie 2: Mécanismes basés sur une factorisation entière

AMENDEMENT 1

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2008

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

Amendment 1 to ISO/IEC 9796-2:2002 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 27, *IT Security techniques*.

STANDARDSISO.COM : Click to view the full PDF of ISO/IEC 9796-2:2002/AMD1:2008

Information technology — Security techniques — Digital signature schemes giving message recovery —

Part 2: Integer factorization based mechanisms

AMENDMENT 1

Add the following text after page 46.

STANDARDSISO.COM : Click to view the full PDF of ISO/IEC 9796-2:2002/AMD1:2008

Annex E (normative)

ASN.1 module

E.1 Formal definition

```

MessageRecoverySignatureMechanisms {
    iso(1) standard(0) signature-schemes(9796) part(2) asn1-module(1)
        message-recovery-signature-mechanisms(0) }
DEFINITIONS EXPLICIT TAGS ::= BEGIN

IMPORTS

    HashFunctions
        FROM DedicatedHashFunctions {
            iso(1) standard(0) hash-functions(10118) part(3)
                asn1-module(1) dedicated-hash-functions(0) } ;

SignatureWithMessageRecovery ::= SEQUENCE {
    algorithm ALGORITHM.&id({MessageRecovery}),
    parameters ALGORITHM.&Type({MessageRecovery},{algorithm}) OPTIONAL
}

MessageRecovery ALGORITHM ::= {
    dswmr-mechanism1A |
    dswmr-mechanism2A |
    dswmr-mechanism3A |
    dswmr-mechanism1N |
    dswmr-mechanism2N |
    dswmr-mechanism3N |
    dswmr-mechanism1A-sha1 |
    dswmr-mechanism2A-sha1 |
    dswmr-mechanism3A-sha1 |
    dswmr-mechanism1N-sha1 |
    dswmr-mechanism2N-sha1 |
    dswmr-mechanism3N-sha1,

    ... -- Expect additional signature scheme objects --
}

dswmr-mechanism1A ALGORITHM ::= {
    OID mechanism1A PARMS HashFunctions
}

dswmr-mechanism2A ALGORITHM ::= {
    OID mechanism2A PARMS HashFunctions
}

dswmr-mechanism3A ALGORITHM ::= {
    OID mechanism3A PARMS HashFunctions
}

dswmr-mechanism1N ALGORITHM ::= {
    OID mechanism1N PARMS HashFunctions
}

```

```

}

dswmr-mechanism2N ALGORITHM ::= {
    OID mechanism2N PARMS HashFunctions
}

dswmr-mechanism3N ALGORITHM ::= {
    OID mechanism3N PARMS HashFunctions
}

dswmr-mechanism1A-sha1 ALGORITHM ::= { OID mechanism1A-sha1 }
dswmr-mechanism2A-sha1 ALGORITHM ::= { OID mechanism2A-sha1 }
dswmr-mechanism3A-sha1 ALGORITHM ::= { OID mechanism3A-sha1 }
dswmr-mechanism1N-sha1 ALGORITHM ::= { OID mechanism1N-sha1 }
dswmr-mechanism2N-sha1 ALGORITHM ::= { OID mechanism2N-sha1 }
dswmr-mechanism3N-sha1 ALGORITHM ::= { OID mechanism3N-sha1 }

-- Cryptographic algorithm identification --

ALGORITHM ::= CLASS {
    &id OBJECT IDENTIFIER UNIQUE,
    &Type OPTIONAL
}
    WITH SYNTAX { OID &id [PARMS &Type] }

-- Message recovery signature mechanisms --

OID ::= OBJECT IDENTIFIER -- Alias

signatureMechanismA OID ::= {
    iso(1) standard(0) signature-schemes(9796) part2(2) mechanism(0) alternate(0)
}

mechanism1A OID ::= { signatureMechanismA mechanism1(0) }
mechanism2A OID ::= { signatureMechanismA mechanism2(1) }
mechanism3A OID ::= { signatureMechanismA mechanism3(2) }

signatureMechanismN OID ::= {
    iso(1) standard(0) signature-schemes(9796) part2(2) mechanism(0) normal(1) }

mechanism1N OID ::= { signatureMechanismN mechanism1(0) }
mechanism2N OID ::= { signatureMechanismN mechanism2(1) }
mechanism3N OID ::= { signatureMechanismN mechanism3(2) }

-- Combined signature scheme and hash-function mechanisms --

mechanismA-Hash OID ::= {
    iso(1) standard(0) signature-schemes(9796) part2(2)
    mechanismHash(2) alternate(0) }

mechanism1A-sha1 OID ::= { mechanismA-Hash mechanism1-SHA1(0) }

```

```

mechanism2A-sha1 OID ::= { mechanismA-Hash mechanism2-SHA1(1) }

mechanism3A-sha1 OID ::= { mechanismA-Hash mechanism3-SHA1(2) }

mechanismN-Hash OID ::= {
    iso(1) standard(0) signature-schemes(9796) part2(2)
    mechanismHash(2) normal(1) }

mechanism1N-sha1 OID ::= { mechanismN-Hash mechanism1-SHA1(0) }

mechanism2N-sha1 OID ::= { mechanismN-Hash mechanism2-SHA1(1) }

mechanism3N-sha1 OID ::= { mechanismN-Hash mechanism3-SHA1(2) }

END -- MessageRecoverySignatureMechanisms --

```

E.2 Use of subsequent object identifiers

Each of the signature schemes uses a hash-function, a sequence containing a hash algorithm identifier and any associated parameters. Therefore, the signature scheme object identifier may be followed by one of the dedicated hash-function algorithm identifiers specified in ISO/IEC 10118-3 and any associated parameters.

Using the ASN.1 XML value notation, a value of type `SignatureWithMessageRecovery` using normal signature processing mechanism 1 defined in this Standard and the SHA-1 hash-function defined in ISO/IEC 10118-3 would be represented as:

```

<SignatureWithMessageRecovery>
  <algorithm> 1.0.9796.2.0.1.0 <algorithm>
  <parameters>
    <HashFunctions>
      <algorithm> 1.3.14.3.2.26 <algorithm>
      <parameters/>
    <HashFunctions>
  </parameters>
</SignatureWithMessageRecovery>

```

A value of type `SignatureWithMessageRecovery` using the combined object identifier for normal signature processing mechanism 1 and the SHA-1 hash-function has the simpler form:

```

<SignatureWithMessageRecovery>
  <algorithm> 1.0.9796.2.2.1.0 <algorithm>
</SignatureWithMessageRecovery>

```