German Signature Law Profile of the OASIS Digital Signature Service
Version 1.0

Committee Specification

13 February 2007

Abstract:
This document defines protocol profiles and processing profiles for the purpose of creating and verifying German Signature Law signatures.

Status:
This document was last revised or approved by the OASIS Digital Signature Services TC on the above date. The level of approval is also listed above. Check the current location noted above for possible later revisions of this document. This document is updated periodically on no particular schedule.

Related work:
This specification is related to:
• oasis-dss-core-spec-cs-v1.0-r1

Editor(s):
Andreas Kuehne, individual

Chair(s):
Nick Pope, Thales eSecurity
Juan Carlos Cruellas, Centre d'aplicacionsavançades d'Internet (UPC)

Technical Committee:
OASIS Digital Signature Services TC

Specification URIs:
This Version:
http://docs.oasis-open.org/dss/v1.0/oasis-dss-profiles-german_signature_law-spec-cs-v1.0-r1.html
http://docs.oasis-open.org/dss/v1.0/oasis-dss-profiles-german_signature_law-spec-cs-v1.0-r1.pdf

Latest Version:
http://docs.oasis-open.org/dss/v1.0/oasis-dss-profiles-german_signature_law-spec-cs-v1.0-r1.html
http://docs.oasis-open.org/dss/v1.0/oasis-dss-profiles-german_signature_law-spec-cs-v1.0-r1.pdf
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” button on the Technical Committee’s web

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

The non-normative errata page for this specification is located at http://www.oasis-
open.org/committees/dss.

The non-normative errata page for this specification is located at www.oasis-
open.org/committees/dss.
Notices

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's procedures with respect to rights in OASIS specifications can be found at 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 implementors or users of this specification, can be obtained from the OASIS Executive Director.

OASIS invites any interested party to bring to its attention any copyrights, patents or patent applications, or other proprietary rights which may cover technology that may be required to implement this specification. Please address the information to the OASIS Executive Director.

Copyright © OASIS® 1993–2007. All Rights Reserved. OASIS trademark, IPR and other policies apply.

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 paragraph are included on all such copies and derivative works. However, this document itself may not be modified in any way, such as by removing the copyright notice or references to OASIS, except as needed for the purpose of developing OASIS specifications, in which case the procedures for copyrights defined in the OASIS Intellectual Property Rights document 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 RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

The names "OASIS" are trademarks of 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/who/trademark.php for above guidance.
# Table of Contents

88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100  
101  
102  
103  
104  
105  
106  
107  
108  
109  
110  
111  
112  
113  
114  
115  
116  
117  
118  
119  
120  
121  
122  
123  

## 1 Introduction ............................................................................................................................. 5

## 1.1 Terminology ........................................................................................................................ 5

## 1.2 Normative References .......................................................................................................... 5

## 1.3 Non-Normative References ................................................................................................... 6

## 1.4 Namespaces ......................................................................................................................... 6

## 2 Profile Features ....................................................................................................................... 7

## 2.1 Identifier ................................................................................................................................. 7

## 2.2 Scope .................................................................................................................................... 7

## 2.3 Relationship To Other Profiles .............................................................................................. 7

## 2.4 Signature Object .................................................................................................................... 7

## 2.5 Transport Binding .................................................................................................................. 7

## 2.6 Security Binding .................................................................................................................... 7

## 3 Profile of Signing Protocol ....................................................................................................... 8

## 3.1 Element <SignRequest> ....................................................................................................... 8

## 3.1.1 Element <OptionalInputs> ............................................................................................. 8

## 3.1.1.1 Element <SignedProperties> ............................................................................................. 8

## 3.1.1.2 Element <ClaimedIdentity> ............................................................................................ 8

## 3.1.2 Element <InputDocuments> .......................................................................................... 8

## 3.2 Element <SignResponse> .................................................................................................... 9

## 3.2.1 Element <Result> .......................................................................................................... 9

## 3.2.2 Element <OptionalOutputs> .......................................................................................... 9

## 3.2.3 Element <SignatureObject> ........................................................................................... 9

## 4 Profile of Verifying Protocol ................................................................................................... 10

## 4.1 Element <VerifyRequest> ................................................................................................... 10

## 4.1.1 Element <OptionalInputs> ........................................................................................... 10

## 4.1.2 Element <SignatureObject> ......................................................................................... 10

## 4.1.3 Element <InputDocuments> ........................................................................................ 10

## 4.2 Element <VerifyResponse> ................................................................................................ 10

## 4.2.1 Element <Result> ........................................................................................................ 10

## 4.2.2 Element <OptionalOutputs> ........................................................................................ 10

## 4.2.2.1 Element <Document> ...................................................................................................... 10

## 4.2.2.2 Element <SignerRole> ................................................................................................. 10

## 5 Profile of Server Processing Rules ....................................................................................... 12

## A Acknowledgements ................................................................................................................... 13
1 Introduction

This DSS profile is to support creation and validation of qualified signatures according to the guidelines given by the German signature law (SigG) [SigG] and its associated regulations [SigV]. The EU certified that the German signature law complies with the European legal framework. So this DSS profile may be used as a template for national profiles all over Europe.

The DSS signing and verifying protocols are defined in [DSSCore]. As defined in that document, these protocols have a fair degree of flexibility and extensibility. This document defines a protocol profile of these protocols that limit their flexibility to comply with the given SigG regulations. It also defines processing profiles that govern how clients and servers should behave when using these protocol.

However, these profiles still leave certain things undefined. You cant understand this profile as a definition of an interface. Thus further profiles will build on / implement the ones in this document.

1.1 Terminology

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this specification are to be interpreted as described in IETF RFC 2119 [RFC 2119]. These keywords are capitalized when used to unambiguously specify requirements over protocol features and behavior that affect the interoperability and security of implementations. When these words are not capitalized, they are meant in their natural-language sense.

This specification uses the following typographical conventions in text: <ns:Element>, Attribute, Datatype, OtherCode.

1.2 Normative References

http://www.bundesnetzagentur.de/media/archive/3612.pdf
[SigV] Electronic Signature Ordinance (Signaturverordnung – SigV).
http://www.bundesnetzagentur.de/media/archive/3613.pdf
[Algorithms] Suitable Cryptographic Algorithms
http://www.bundesnetzagentur.de/enid/87813fdad06a8c942d819a8058fc7c16,0/Publications_and_Notifications/Suitable_Algorithms_z8.html
[Async] Asynchronous Processing Abstract Profile of the OASIS Digital Signature Services.
OASIS, February 2007
1.3 Non-Normative References

1.4 Namespaces

The structures described in this specification are contained in the schema file [XYZ-XSD]. All schema listings in the current document are excerpts from the schema file. In the case of a disagreement between the schema file and this document, the schema file takes precedence.

This schema is associated with the following XML namespace:

```
urn:oasis:names:tc:dss:1.0:profiles:germanSignatureLaw
```

If a future version of this specification is needed, it will use a different namespace.

Conventional XML namespace prefixes are used in this document:

- The prefix `dss:` (or no prefix) stands for the DSS core namespace [Core-XSD].
- The prefix `ds:` stands for the W3C XML Signature namespace [XMLSig].

Applications MAY use different namespace prefixes, and MAY use whatever namespace defaulting/scoping conventions they desire, as long as they are compliant with the Namespaces in XML specification [XML-ns].
2 Profile Features

2.1 Identifier

urn:oasis:names:tc:dss:1.0:profiles:germanSignatureLaw

Assign this profile a URI for use in the Profile attribute. Or say “This profile does not specify a URI Identifier”. If this profile inherits from another profile, such that a server implementing this profile could be contacted by a client implementing the super-protocol, mention the super-profile’s identifier as well:

2.2 Scope

This document profiles both the DSS signing and verifying protocols defined in [DSSCore].

2.3 Relationship To Other Profiles

The profiles in this document are based on the [DSSCore]. The profiles in this document are not implementable directly, but are further profiled by other profiles. The german signature law doesn’t have any limitations on the signature format. So at least one other profile will be used together with this profile.

Due to the imposed processing guidelines the server usually needs from hours to days to fulfill a signing request. So this profile will likely be combined with profile for asynchronous processing [Async].

2.4 Signature Object

This profile supports the creation and verification of signatures as defined in the german signature law and its related regulations.

2.5 Transport Binding

This profile does not specify or constrain the transport binding.

2.6 Security Binding

This profile does not specify or constrain the security binding.
3 Profile of Signing Protocol

This profile does not introduce any new message elements. Therefore no special schema is defined.

3.1 Element <SignRequest>

3.1.1 Element <OptionalInputs>

This profile introduces a new element within the <OptionalInputs>. There may be zero or more <SignerRole> elements included.

3.1.1.1 Element <SignedProperties>

The requester MAY request the addition of one or more attribute certificates, embedded in a <SignerRole> element. The requester MUST, in such cases, use dss:SignedProperties element.

Sections below show profiles for the different dss:Property elements that MAY appear as children of dss:SignedProperties depending on the property requested. This profile define contents for the Identifier and Value elements.

3.1.1.1.1 Requesting SignerRole

Value for Identifier element:

```
urn:oasis:names:tc:dss:1.0:profiles:XAdES:SignerRole
```

When the value of the role is fixed by the requester, this property will have a value that the server will incorporate to the advanced signature. This profile does not restrict the contents of such a value. Corresponding sub-profiles will define their specific schemas.

```
<xs:element name="SignerRole" type="dss:AnyType"/>
```

3.1.1.2 Element <ClaimedIdentity>

The requester MUST NOT use the <ClaimedIdentity> element. The Identity of the signer is always given by the subject of the used signing certificate.

3.1.2 Element <InputDocuments>


The signing certificate holder MUST have the ability to check the content of the documents to be signed. The signing process MUST include at least a time slot for the holder to review the documents and reject the documents optionally.
3.2 Element <SignResponse>

3.2.1 Element <Result>
This profile defines no additional <ResultMinor> codes.
Is a ‘Intentionally rejected by the certificate holder’ a specific ResultMinor code?

3.2.2 Element <OptionalOutputs>
This profile does not define any additional outputs.

3.2.3 Element <SignatureObject>
This profile does not introduce any restrictions on the type of signature objects.
4 Profile of Verifying Protocol

This profile does not introduce any new message elements. Therefore no special schema is defined.

4.1 Element <VerifyRequest>

4.1.1 Element <OptionallInputs>

This profile does not introduce any additional input elements.

4.1.2 Element <SignatureObject>

This profile does not introduce any restrictions on the type of signature objects.

4.1.3 Element <InputDocuments>


4.2 Element <VerifyResponse>

4.2.1 Element <Result>

This profile defines no additional <ResultMinor> codes.

4.2.2 Element <OptionalOutputs>

Additionally to the <result> element the input documents are returned. Every attribute certificate given in the <SignedProperties> element during signing time must be returned as on or more <SignerRole> elements.

4.2.2.1 Element <Document>

The server MUST return the <Document> input documents. The result of the verification has to be related to the input documents directly. Therefore the input documents will be returned as part of the <VerifyResponse> within the <OptionalOutputs>.

4.2.2.2 Element <SignerRole>

Every attribute certificate included in the <SignedProperties> element of the signature MUST be returned. The attribute certificates are wrapped in a <SignerRole>. The attribute certificates may introduce restrictions regarding the use of the certificates. To appraise the legal value of a signature not only the formal correctness but also the included restrictions must be taken into account.

Value for Identifier element:

\texttt{urn:oasis:names:tc:dss:1.0:profiles:XAdES:SignerRole}
The server fills in the value of the incorporated attribute certificates.

```xml
<xs:element name="SignerRole" type="dss:AnyType"/>
```
5 Profile of Server Processing Rules

The German signature law, its related regulations and the list of applicable algorithms introduce many constraints on the creation and the verification of a signature. A signature service implementing this profile assures that the processing and the results comply with these regulations.
A. Acknowledgements

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

Participants:
Trevor Perrin, individual