SAML V2.0 Kerberos Attribute Profile
Version 1.0
Committee Draft 01
15 December 2009

Specification URIs:
This Version:
http://docs.oasis-open.org/security/saml/Post2.0/sstc-saml-attribute-kerberos-cd-01.html
http://docs.oasis-open.org/security/saml/Post2.0/sstc-saml-attribute-kerberos-cd-01.odt (Authoritative)
http://docs.oasis-open.org/security/saml/Post2.0/sstc-saml-attribute-kerberos-cd-01.pdf

Previous Version:
N/A

Latest Version:
http://docs.oasis-open.org/security/saml/Post2.0/sstc-saml-attribute-kerberos.html
http://docs.oasis-open.org/security/saml/Post2.0/sstc-saml-attribute-kerberos.odt
http://docs.oasis-open.org/security/saml/Post2.0/sstc-saml-attribute-kerberos.pdf

Technical Committee:
OASIS Security Services TC

Chair(s):
Hal Lockhart, Oracle, Inc.
Thomas Hardjono, MIT

Editor(s):
Josh Howlett, Individual
Thomas Hardjono, MIT

Declared XML Namespace(s):
urn:oasis:names:tc:SAML:2.0:profiles:attribute:kerberos

Abstract:
This specification defines an attribute profile for the Kerberos protocol.

Status:
This document was last revised or approved by the SSTC on the above date. The level of
approval is also listed above. Check the "Latest Version" or "Latest Approved 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” button on the Technical Committee’s web page at http://www.oasis-open.org/committees/security.

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/security/ipr.php).

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

Copyright © OASIS® 2009. 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 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, 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

1 Introduction ........................................................................................................................................... 5  
   1.1 Terminology ................................................................................................................................... 5  
   1.2 Normative References ................................................................................................................... 5  
2 SAML 2.0 Kerberos Attribute Profile .................................................................................................. 6  
   2.1 Required Information ...................................................................................................................... 6  
   2.2 Profile Overview .......................................................................................................................... 6  
   2.3 SAML Attribute Naming ............................................................................................................... 6  
      2.3.1 Attribute Name Comparison .................................................................................................... 6  
   2.4 Profile-Specific XML Attributes .................................................................................................. 6  
   2.5 SAML Attribute Values .................................................................................................................. 6  
   2.6 Attribute Definition ...................................................................................................................... 6  
   2.7 Examples ......................................................................................................................................... 7  
3 Conformance .......................................................................................................................................... 8  
   3.1 SAML 2.0 Kerberos Attribute Profile ............................................................................................ 8  
Appendix A. Acknowledgments ............................................................................................................. 9  
Appendix B. Revision History .................................................................................................................. 10
1 Introduction

The SAML V2.0 Kerberos Attribute Profile describes a SAML attribute profile for requesting and expressing Kerberos protocol messages.

1.1 Terminology

The keywords "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.

1.2 Normative References


2 SAML 2.0 Kerberos Attribute Profile

2.1 Required Information


Contact information: security-services-comment@lists.oasis-open.org

Description: Given below.

Updates: None.

2.2 Profile Overview

This specification describes a SAML attribute profile that can be used to request and express Kerberos protocol messages. In this version of the specification, this is constrained to the Kerberos AP-REQ message type. The mechanisms that are used to generate the Kerberos message are outside the scope of this document and are described by [RFC 4120].

2.3 SAML Attribute Naming

The NameFormat XML attribute in <Attribute> elements MUST be urn:oasis:names:tc:SAML:2.0:attrname-format:uri.

2.3.1 Attribute Name Comparison

Two <Attribute> elements refer to the same SAML attribute if and only if their Name XML attribute values are equivalent in the sense of [RFC 3061]. The FriendlyName attribute plays no role in the comparison.

2.4 Profile-Specific XML Attributes

No additional XML attributes are defined for use with the <Attribute> element.

2.5 SAML Attribute Values

The value of this attribute is a Kerberos message that is expressed using the <KerberosData> element defined in the XML namespace urn:oasis:names:tc:SAML:2.0:attribute:kerberos.

When comparing attribute values for equality, an attribute value which does not contain a <KerberosMessage> element MUST be considered equivalent to any other value. This rule is necessary to satisfy the equality condition stipulated in section 3.3.2.3 of [SAMLCore], in the case where the attribute is used within the <AttributeQuery> element.

2.6 Attribute Definition

This profile currently defines a single multi-valued attribute named “ap-req”.

An `<AttributeValue>` element MUST contain a single `<KerberosData>` element from the XML namespace `urn:oasis:names:tc:SAML:2.0:attribute:kerberos`. For purposes of human readability, there may also be a requirement for some applications to carry an optional string name together with the URI. The optional XML attribute `FriendlyName` (defined in [SAMLCore]) MAY be used for this purpose.

When used to request a Kerberos AP-REQ message, this element MUST include a single instance of the `<KerberosSname>` element, naming the intended service principal, and SHOULD include a single instance of the `<KerberosCname>` element, naming the preferred user principal.

When used to express a Kerberos AP-REQ message, this element MUST include single instances of the `<KerberosSname>` and `<KerberosCname>` elements naming the service and user principals associated with the AP-REQ message and a single instance of the `<KerberosMessage>` element whose value takes the base64-encoded [RFC 2045] representation of the AP-REQ message and whose `KerberosMsgType` attribute MUST take a value of “KRB_AP_REQ”.

The issuer SHOULD attempt to satisfy the user principal named by the requester, if given, but MAY use any other user principal (for example, if a local policy forbids or requires a particular user principal for a service).

The AP-REQ issued in a `<KerberosMessageData>` element MUST conform to [RFC 4120].

### 2.7 Examples

A SAML requester issues a request to a SAML attribute authority for a Kerberos AP-REQ message:

```xml
<saml:Attribute
  xmlns:kerberos="urn:oasis:names:tc:SAML:2.0:attribute:kerberos"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri"
  Name="urn:oasis:names:tc:SAML:2.0:profiles:attribute:kerberos:ap-req">
  <saml:AttributeValue>
    <kerberos:KerberosData>
      <kerberos:KerberosCname> joe@EXAMPLE.ORG </kerberos:KerberosCname>
      <kerberos:KerberosSname> http/www@EXAMPLE.ORG </kerberos:KerberosSname>
    </kerberos:KerberosData>
  </saml:AttributeValue>
</saml:Attribute>
```

A SAML attribute authority returns a Kerberos AP-REQ message:

```xml
<saml:Attribute
  xmlns:kerberos="urn:oasis:names:tc:SAML:2.0:attribute:kerberos"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri"
  Name="urn:oasis:names:tc:SAML:2.0:profiles:attribute:kerberos:ap-req">
  <saml:AttributeValue>
    <kerberos:KerberosData>
      <kerberos:KerberosCname> joe@EXAMPLE.ORG </kerberos:KerberosCname>
      <kerberos:KerberosSname> http/www@EXAMPLE.ORG </kerberos:KerberosSname>
      <kerberos:KerberosMessage KerberosMsgType="KRB_AP_REQ">
        ...base64 representation of an AP-REQ message...
      </kerberos:Message>
    </kerberos:KerberosData>
  </saml:AttributeValue>
</saml:Attribute>
```
3 Conformance

3.1 SAML 2.0 Kerberos Attribute Profile

An asserting party implementation conforms to this profile if it can produce assertions and other SAML-defined content consistent with the normative text of section 2.

A relying party implementation conforms to this profile if it can accept assertions and other SAML-defined content consistent with the normative text of section 2.
Appendix A. Acknowledgments

The editor would like to acknowledge the contributions of the OASIS Security Services (SAML) Technical Committee, whose voting members at the time of publication were:

- John Bradley, Individual
- Scott Cantor, Internet2
- Duane DeCouteau, Veterans Health Administration
- Christian Guenther, Nokia Siemens Networks GmbH & Co.
- Frederick Hirsch, Nokia Corporation
- Ari Kermaier, Oracle Corporation
- Nathan Klingenstei, Internet2
- Hal Lockhart, Oracle Corporation
- Paul Madsen, NTT Corporation
- Kyle Meadors, Drummond Group Inc.
- Bob Morgan, Internet2
- Thinh Nguyenphu, Nokia Siemens Networks GmbH & Co.
- Rob Philpott, EMC Corporation
- Anil Saldhana, Red Hat
- Tom Scavo, National Center for Supercomputing Applications
- Kent Spaulding, Skyworth TTG Holdings Limited
- David Staggs, Veterans Health Administration
- Emily Xu, Sun Microsystems

The editor would also like to acknowledge the following particular individuals who contributed to the development of this document:

- Scott Cantor, Internet2
- Nathan Klingenstein, Internet2
- Tom Scavo, National Center for Supercomputing Applications
- Jeff Hodges, PayPal
# Appendix B. Revision History

<table>
<thead>
<tr>
<th>Document ID</th>
<th>Date</th>
<th>Committer</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>sstc-saml-attribute-kerberos-draft-01</td>
<td>7 Aug 2009</td>
<td>J. Howlett</td>
<td>Initial draft</td>
</tr>
<tr>
<td>sstc-saml-attribute-kerberos-draft-02</td>
<td>3 Sep 2009</td>
<td>J. Howlett</td>
<td>Response to comments</td>
</tr>
<tr>
<td>sstc-saml-attribute-kerberos-cd-01</td>
<td>18 Nov 2009</td>
<td>J. Howlett</td>
<td>Committee Draft 01</td>
</tr>
</tbody>
</table>