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AS2Protocol Assertion (Custom) - User Documentation

AS/2 Protocol Assertion

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Overview

The AS/2 Protocol assertion provides the functionality needed to build up policies that conform to the AS/2 protocol [specification](#).

Background

The gateway currently lacks the ability to generate and verify Message Disposition Notifications (MDN's). AS/2 responses may contain an MDN that the client can process to verify that the server received the message correctly.

Installation

Pre-Requisites

- The API Management Gateway appliance is correctly configured and in operation
- The API Management Gateway Policy Manager is installed
- The [S/MIME Assertion](#) is installed on the gateway

How-To Install

9.0 and above

1. In Policy Manager, go to **Tasks > Extensions and Add-Ons > Manage Server Module Files**
2. Click Upload to upload the **AS2ProtocolAssertion-[version].sjar**
3. Provide the assertion a name like AS2Protocol and click OK. This name is used in the Manage Server Files dialog
4. The assertion will be uploaded and loaded onto the Gateway. For more information on managing Server Module Files, see *CA API Gateway - Manage Server Module Files*

Prior to 9.0

1. Delete any existing copies of the **AS2ProtocolAssertion-[version].jar** from the following directory on the Gateway machine:

```
/opt/SecureSpan/Gateway/runtime/modules/lib
```

2. Copy the new **AS2ProtocolAssertion-[version].jar** to the following directory on the Gateway machine:

```
/opt/SecureSpan/Gateway/runtime/modules/lib
```

3. Set the ownership and permission for the file:

```
chown layer7:layer7 AS2ProtocolAssertion-[version].aar  
chmod 444 AS2ProtocolAssertion-[version].aar
```

4. Restart the Gateway:

```
service ssg restart
```

Once the AS/2 Protocol Assertion is enabled, you will see the following new items on the Policy Manager interface:

- *AS2 Attach MDN, AS2 Verify MDN, Calculate Hash* and *AS2 Extract MDN Attribute* in the Message Validation/Transformation category

- XML Security
 - (Non-SOAP) Check Results from XML Verification
 - (Non-SOAP) Decrypt XML Element
 - (Non-SOAP) Encrypt XML Element
 - (Non-SOAP) Sign XML Element
 - (Non-SOAP) Validate SAML Token
 - (Non-SOAP) Verify XML Element
 - Add or Remove WS-Security
 - Add Security Token
 - Add Timestamp
 - Apply NCES Elements to Message
 - AS2 Attach MDN
 - AS2 Extract MDN Attribute
 - AS2 Verify MDN
 - Build RST SOAP Request
 - Build RSTR SOAP Response
 - Build SAML Protocol Request
 - Build SAML Protocol Response
 - Calculate Hash
 - Cancel Security Context
 - Configure WS-Security Decoration
 - Create SAML Token
 - Create Security Context Token
 - Create XACML Request
 - Encrypt Element
 - Establish Outbound Secure Conversation
 - Evaluate SAML Protocol Response
 - Evaluate XACML Policy
 - Generate OAuth Signature Base String
 - Generate Security Hash
 - Look Up Certificate

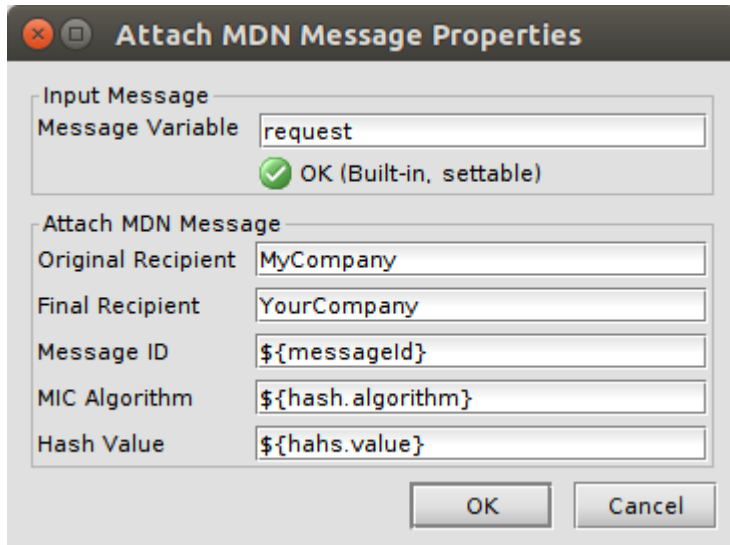
Usage

Using AS2 Attach MDN

The AS2 Attach MDN Assertion will generate a Message Disposition Notification and include it in the target message. The target message is wrapped in a MIME multipart message, with the first part being the original message and the second part being the MDN.

To add the assertion to the Policy Development window, see *Adding an Assertion* in the *Policy Authoring User Manual*.

When adding the assertion, the *Attach MDN Properties* dialog will automatically appear; when modifying the assertion, right-click *AS2 Attach MDN Properties* in the policy window and select *Attach MDN Properties* or double click the assertion in the policy window. The assertion properties are displayed.



Option	Description
<i>Message Variable</i>	To scan request messages, enter <i>request</i> . To scan response messages, enter <i>response</i> . Enter the context variable name to scan the messages. By default, this is set to <i>request</i> . This field is required.
<i>Original Recipient</i>	The original recipient of the MDN. This field is optional.
<i>Final Recipient</i>	The final recipient of the MDN. This field is optional.
<i>Message ID</i>	The message ID of the AS/2 request message.
<i>MIC Algorithm</i>	The algorithm that was used to calculate the hash of the AS/2 request message.
<i>Hash Value</i>	The value of the hash of the AS/2 request message.

Using AS2 Verify MDN

The AS2 Verify MDN Assertion is used to verify the content of a Message Disposition Notification and optionally strip it from the target message. In order to verify the MDN, some information about the AS/2 request message is required and is provided to this assertion through context variables.

To add the assertion to the Policy Development window, see *Adding an Assertion* in the *Policy Authoring User Manual*.

When adding the assertion, the *AS2 Verify MDN Properties* dialog will automatically appear; when modifying the assertion, right-click *AS2 Verify MDN Properties* in the policy window and select *AS2 Verify MDN Properties* or double click the assertion in the policy window. The assertion properties are displayed.

Verify MDN Message Properties

Message ID: 1234567890

Hash Value: \${hashValue}

Remove MDN (if valid)

Header Lines Variable: oldHeaders

Message Variable: request

OK (Built-in, settable)

OK Cancel

Option	Description
<i>Message Variable</i>	To scan request messages, enter <i>request</i> . To scan response messages, enter <i>response</i> . Enter the context variable name to scan the messages. By default, this is set to <i>request</i> . This field is required.
<i>Message ID</i>	The message ID of the AS/2 request message, not the message containing the cMDN.
<i>SHA-1 Hash Value</i>	The SHA-1 hash of the AS/2 request message that was computed locally. This field is optional if MD5 Hash Value was provided.
<i>MD5 Hash Value</i>	The MD5 hash of the AS/2 request message that was computed locally. This field is optional if SHA-1 Hash Value was provided.
<i>Header Lines Variable</i>	If Remote MDN is checked, then the headers of the MDN portion of the MIME multipart message are stored in a variable with this name. Not used if Remote MDN is not checked.
<i>Remove MDN</i>	If checked, then the target message is set to the first part of the MIME multipart message.

Using Calculate Hash

The Calculate Hash Assertion can be used to calculate the SHA-1 or MD5 hash of a message with an optional prefix. The prefix can be headers that were removed earlier in policy.

To add the assertion to the Policy Development window, see *Adding an Assertion* in the *Policy Authoring User Manual*.

When adding the assertion, the *Calculate Hash Properties* dialog will automatically appear; when modifying the assertion, right-click *Calculate Hash Properties* in the policy window and select *Calculate Hash Properties* or double click the assertion in the policy window. The assertion properties are displayed.

Calculate Hash Properties

Input Message

Message Variable: request

OK (Built-in, settable)

Calculate Hash

Hash Type: SHA-1

Output Variable Name: sha1.hashValue

Prefix: \${prefix}

OK Cancel

Option	Description
--------	-------------

<i>Message Variable</i>	To scan request messages, enter <i>request</i> . To scan response messages, enter <i>response</i> . Enter the context variable name to scan the messages. By default, this is set to <i>request</i> . This field is required.
<i>Hash Type</i>	The algorithm to use for computing the hash value. Can be SHA-1 or MD5.
<i>Output Variable Name</i>	The name of the context variable to store the result in.
<i>Prefix</i>	A prefix to attach to prepend to the target message before calculating the hash value.

Using AS2 Extract MDN Attribute

The AS2 Extract MDN Attribute Assertion can be used to extract information from the MDN payload in an AS/2 response message.

To add the assertion to the Policy Development window, see Adding an Assertion in the Policy Authoring User Manual.

When adding the assertion, the *Extract MDN Attribute Properties* dialog will automatically appear; when modifying the assertion, right-click *Extract MDN Attribute Properties* in the policy window and select *Extract MDN Attribute Properties* or double click the assertion in the policy window. The assertion properties are displayed.

Option	Description
<i>Message Variable</i>	To scan request messages, enter <i>request</i> . To scan response messages, enter <i>response</i> . Enter the context variable name to scan the messages. By default, this is set to <i>request</i> . This field is required.
<i>Attribute Name</i>	The key for the attribute value to retrieve.
<i>Output Variable Name</i>	The name of the context variable to store the result in.

Considerations

- These assertions must be used along with the S/MIME assertions to provide a working AS/2 solution.
- These assertions only fill in the missing gaps necessary to implement an AS/2 solution. A real solution will need some policies written that use these assertions.

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