gs.dmarc Documentation

Release 2.1.9

GroupServer.org

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Contents

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This product allows systems look up and report on the DMARC (**RFC 7489**: Domain-based Message Authentication, Reporting and Conformance) status of a domain. DMARC allows the owner of a domain to publish a key that is used to verify if an email message actually originated from the domain, and to publish what to do if the verification fails. It is an extension of DKIM (DomainKeys Identified Mail, **RFC 6376**) and SPF (Sender Policy Framework, **RFC 4408**).

Specifically this product supplies *`ReceiverPolicy`* for enumerating the different DMARC policies, and the *`receiver_policy()`* function for querying the policy for a given domain.

Contents:

CHAPTER 1

`gs.dmarc` API Reference

Currently only querying the DMARC *receiver policy* is supported.

1.1 Receiver Policy

A DMARC receiver policy is published in a DNS `TXT` record, in a domain that starts with `_dmarc`. It is possible to use the **`host`** program to look up a DMARC record.

```
$ host -t TXT _dmarc.yahoo.com
_dmarc.yahoo.com descriptive text "v=DMARC1\; p=reject\; sp=none\; pct=100\; rua=mailto:dmarc-yahoo-r
```

The *`receiver_policy()`* function performs the DNS query, parses the results, and returns the policy for the host. The different policies are listed by the *`ReceiverPolicy`* enumeration.

`gs.dmarc.`**`receiver_policy`**`(`*host*`)`

Get the DMARC receiver policy for a host.

Parameters **`host`** (*`str`*) – The host to lookup.

Returns The DMARC reciever policy for the host.

Return type A member of the *`gs.dmarc.ReceiverPolicy`* enumeration.

The *`receiver_policy()`* function looks up the DMARC reciever polciy for `host`. If the host does not have a pubished policy the organizational domain is determined. The DMARC policy for the organizational domain is queried, and the subdomain policy is reutурned (if specified) or the overall policy for the domain is returned. Internally the *`gs.dmarc.lookup.lookup_receiver_policy()`* is used to perform the query.

class `gs.dmarc.`**`ReceiverPolicy`**

An enumeration of the different receiver policies in DMARC.

`noDmarc` **= <ReceiverPolicy.noDmarc: 0>**

No published DMARC receiver-policy could be found. Often interpreted the same way as *`gs.dmarc.ReceiverPolicy.none`*.

`none` **= <ReceiverPolicy.none: 1>**

The published policy is `none`. Recieving parties are supposed to skip the verification of the DMARC signature.

`quarantine` **= <ReceiverPolicy.quarantine: 2>**

Generally causes the message to be marked as *spam* if verification fails.

`reject` **= <ReceiverPolicy.reject: 3>**

Causes the system that is receiving the message to reject the message if the verification fails.

1.1.1 Example

Get the host from an email address, and get the receiver policy.

```
addr = email.utils.parseaddr('mpj17@onlinegroups.net')
host = addr[1].split('@')[1]
policy = receiver_policy(host)

if (policy in (ReceiverPolicy.quarintine, ReceiverPolicy.reject)):
    # Rewrite the From header
```

See also:

`publicsuffixlist` The organizational domain is determined by the publicsuffixlist product.

`dnspython` The dnspython product is used to perform the DNS query.

`enum34` The enum34 product is used to provide enumeration support in versions of Python prior to 3.4.

1.2 Internal

Internally the *`lookup.lookup_receiver_policy()`* function is used to make a DNS query, parse the arguments, and return a member from the *`ReceiverPolicy`* enumeration.

`gs.dmarc.lookup.`**`lookup_receiver_policy`**`(`*host*, *policyTag=u'p'*`)`

Lookup the reciever policy for a host. Returns a ReceiverPolicy.

Parameters

- **`host`** (*`str`*) – The host to query. The *actual* host that is queried has `_dmarc.` prepended to it.
- **`policyTag`** (*`str`*) – The *tag* that holds the receiver policy. Must be `p` (the default) or `sp` (for the subdomain policy). See **RFC 7489#section-6.3**.

Returns The DMARC receiver policy for the host. If there is no published policy then *`gs.dmarc.ReceiverPolicy.noDmarc`* is returned.

Return type A member of the *`gs.dmarc.ReceiverPolicy`* enumeration.

CHAPTER 2

Changelog

2.1 2.1.9 (2016-12-16)

- Falling back to the either the overall subdomain-policy or overall domain-policy if a subdomain lacks a specific published DMARC record — with thanks to Igor Colombi for pointing out the issue

2.2 2.1.8 (2016-10-18)

- Adding **PEP 484** type hints
- Updating the public-suffix list
- Using `setuptools` to return the public-suffix list

2.3 2.1.7 (2016-04-11)

- Testing with Python 3.5
- Switching to dictionary-comprehensions

2.4 2.1.6 (2016-03-24)

- Updating the suffix list from Mozilla, thanks to Baran Kaynak

2.5 2.1.5 (2015-09-01)

- Catching `dns.resolver.NoNameserver` exceptions, thanks to Alexy Mikhailichenko

2.6 2.1.4 (2015-06-25)

- Fixing a spelling mistake in the README, thanks to Stefano Brentegani
- Updating the documentation, as DMARC is now **RFC 7489**

2.7 2.1.3 (2014-10-20)

- Handling domains with invalid DMARC policies, closing Bug 4135

2.8 2.1.2 (2014-09-26)

- Switching to GitHub as the primary code repository.

2.9 2.1.1 (2014-07-09)

- Coping when the host-name passed to `lookup_receiver_policy` for hosts that start with `_dmarc` already
- Rejecting all answers that do not start with `v=DMARC1`, as per Section 7.1 (number 5) of the draft DMARC specification

2.10 2.1.0 (2014-05-07)

- Adding `gs.dmarc.receiver_policy`, which looks up the organisational domain
- Updating the Sphinx documentation

2.11 2.0.0 (2014-04-29)

- Adding `gs.dmarc.ReceiverPolicy.noDmarc`, and returning it from `gs.dmarc.lookup_receiver_policy`
- Adding Sphinx documentation

2.12 1.0.0 (2014-04-24)

Initial release.

CHAPTER 3

Resources

- Documentation: http://gsdmarc.readthedocs.io/
- Code repository: https://github.com/groupserver/gs.dmarc
- Questions and comments to http://groupserver.org/groups/development
- Report bugs at https://redmine.iopen.net/projects/groupserver

CHAPTER 4

Indices and tables

- genindex
- modindex
- search